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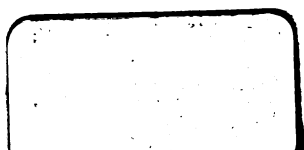
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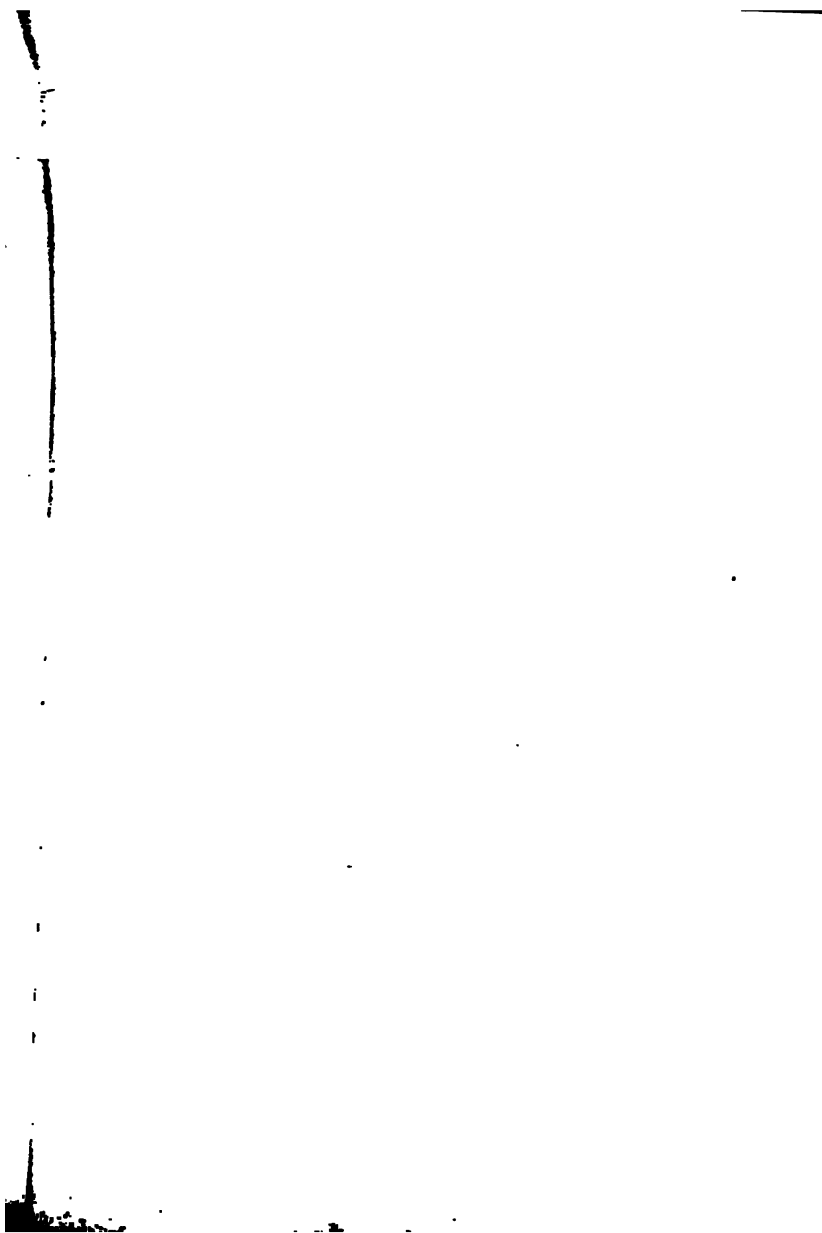
KEY TO CLERY'S TACTICS.



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# KEY TO CLERY'S TACTICS.



**KEY TO CLERY'S TACTICS.**

**FOR THE USE OF**

**OFFICERS OF AUXILIARY FORCES**

**PREPARING FOR THE**

**TACTICAL EXAMINATION.**

**COMPILED BY**

**EDGAR J. MAYOR,**

*Late Captain Auxiliary Forces.*

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**With Diagrams.**

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## PREFACE.

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THERE are several most excellent works on Tactics, but as they are more fitted for the man who is making military matters the one object of his life than for the man who has many other demands on his time, as is the case with the majority of the Officers of the Militia or Volunteer Force, it is the aim of the following pages to give the needful information in the most condensed form, as being the one that must most commend itself to their notice.

It is recommended that intending competitors should read through carefully "Clery's Minor Tactics," and Parts V. and VI. "Field Exercise," before starting on the questions. After the questions and answers have been well studied, a certain number of the questions should be written out frequently, and answered without the aid of the book, till perfect.

The tables of data for space and time calculations, and those relating to organization, must be learnt by heart.

No claim is made for anything new ; merely a condensation from the authorized works on the subject has been the object in view.

## PREFACE.

The greater number of the questions are those that have been given at the Sandhurst Examinations on "Tactics" for some years past ; to which are added some of those set at the Examination in June last, and a few others that have suggested themselves in the course of compilation ; so that nearly every class of question likely to be given in an examination based on the Syllabus given in the "Queen's Regulations," 1881, will have been mastered.

*September 16th, 1882.*

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## ORGANIZATION OF THE BRITISH ARMY.

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Three Battalions form a Brigade.

A Division is formed of—

- 2 Brigades of Infantry.
- 1 Battalion of Rifles.
- 1 Regiment of Cavalry.
- 3 Batteries of Field Artillery.
- 1 Company of Royal Engineers.
- 1 Artillery and Infantry Reserve Ammunition Column.

An Army Corps is composed of 3 Divisions as above, to which are added—

- (a.) A Cavalry Brigade—viz., 3 Regiments of Cavalry, and 1 Battery of Horse Artillery.
- (b.) The Corps' Artillery—viz., 3 Batteries Horse Artillery, 2 Batteries Field Artillery, and Ammunition Column.
- (c.) The Corps' Engineers—viz., 1 Company and Field Park, half a Telegraph Troop, and 1 Pontoon Troop.

### *Cavalry.*

A Regiment of Cavalry is composed of 8 Troops, these being again arranged into 4 Squadrons, of 2 Troops each.

*Artillery.*

A Battery of Artillery consists of 6 guns and 6 wagons.

A half-battery, of 3 guns and 3 wagons.

A division, of 2 guns and 2 wagons.

A sub-division, of 1 gun and 1 wagon.

*Engineers.*

These are generally used as a Company, Troop, or part thereof.

*Infantry.*

A Battalion generally consists of 8 Companies.

**Data for Calculating Space taken by Troops in  
Position or on the March.**

## CAVALRY.

Each cavalry soldier is allowed a front of 1 yard ; therefore, any number of files in line take up the same number of yards, so that 20 files in line occupy 20 yards of front.

When a regiment of cavalry is in line, an interval of 12 yards is allowed between each squadron.

An interval of 25 yards is allowed between cavalry and infantry in line or on a road, and  $28\frac{1}{2}$  yards between cavalry and artillery in line or on a road.

“The same intervals are also allowed if the troops are in line of columns.”

The depth of a squadron in line is about 20 yards.

Cavalry are generally reckoned for as moving on a road in “sections.” When a body of cavalry is moving

in "sections," it takes up in length double the front it did in line, less the squadron intervals—*i.e.*, 12 yards.

If moving in "half-sections," it takes up in length four times the front it did in line, less squadron intervals.

If moving in "fours," it takes up in length space equal to its front in line.

The rate of march on ordinary roads is—walk, 4 miles an hour; trot,  $8\frac{1}{2}$  miles an hour. Note, this is when moving alone; if acting with other arms, its pace is regulated accordingly. But it is very tiring to horses to keep the same pace as infantry; therefore, when it is possible, they should always move on separate roads.

#### ARTILLERY.

A gun or wagon, with 6 horses, is 15 yards long.

When guns are in line, they measure 19 yards from muzzle to muzzle.

A battery in line—*i.e.*, 6 guns—measures 95 yards.

An interval of  $28\frac{1}{2}$  yards is allowed between one battery and another when in line.

$28\frac{1}{2}$  yards is allowed between batteries moving on a road.

An interval of  $28\frac{1}{2}$  yards is allowed between artillery in line, and either cavalry or infantry; the same is allowed on a road between artillery and the other arms. Artillery move along a road in "column of route," in which formation every gun is followed by its wagon, with an interval of four yards between them. Thus, a battery—*i.e.*, 6 guns and 6 wagons—in "column of route," will take up in length 224 yards; that is allowing 15



yards for each gun and wagon, and four yards interval.  
Thus :

$$\begin{array}{rcl}
 15 \times 12 & \dots & = 180 \\
 11 \text{ intervals of 4 yards each} & = & 44 \\
 \hline
 & & 224 \text{ yards.} \\
 & & \hline
 \end{array}$$

Rate of marching when moving alone may be taken at 4 miles an hour for field artillery, and 5 miles an hour for horse artillery.

#### INFANTRY.

Every man in line—*i.e.*, two ranks—takes 2 feet ; so that any number of men in line is equal to the same number of feet. Thus, 400 men in line occupy a front of 400 feet. To this must be added, when calculating the front of a battalion, 2 feet for each right guide, 2 feet for guide on left of line, and 6 feet for colour party.

Between battalions in line allow 25 yards.

Between battalions in "line of columns" allow 25 yards.

Between battalion and battalion on a road allow 25 yards.

The length of a battalion marching in "fours" is the same as its front in line.

Depth of line from front rank to commanders of companies, 10 feet.

Rate of marching, 120 paces or 100 yards a minute, in quick time. But in route marching only 3 miles an hour must be reckoned on. Therefore, base all calculations of movements of infantry on 3 miles an hour, which is equal to 88 yards a minute, or 1 mile in 20 minutes.

NOTE 1.—All rates of marching of the various arms are only to be taken when either is moving alone. When any combination takes place, the rate of the slowest is that of the whole.

NOTE 2.—Many questions are based on the assumption that an observer sees a force of infantry pass a given spot in a given time. If it is remembered that at the ordinary marching rate, 3 miles an hour, or 88 yards a minute, is gone over, then the number of minutes the force takes to pass a given spot, multiplied by 88, gives so many yards of men in "fours;" therefore, by foregoing data it is found that 300 men in line take 300 feet = 100 yards, and that in "fours" they take the same.  $\therefore$  100 yards of men in "fours" = 300 men; so as many hundred yards that pass, multiplied by 300, gives the number of men. But if they are marching with the ordinary 25 yards interval between battalions, these must be deducted from the number of yards that pass.

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## GENERAL ORDER 20.—January 1st, 1882.

### EXAMINATION OF OFFICERS OF AUXILIARY FORCES.

(1.) Captains and field officers of Auxiliary Forces may present themselves for examination in "Tactics" before the Boards which assemble at the head-quarters of military districts on the first Tuesday in February of each year, commencing 1883.

(2.) As a special case, an extra examination will be held on the first Tuesday of June, 1882.

(3.) Applications must be made to the General Officer commanding districts in the manner prescribed by para. 42, sec. IV., of the "Queen's Regulations and Orders for the Army," 1881.

(4.) The qualifications named in para. 42, sec. IV., of "Queen's Regulations and Orders for the Army," 1881, will not be required. The examination will be held on the basis laid down for promotion to the rank of Captain (in this subject) by Appendix II. of the "Queen's Regulations and Orders for the Army," 1881.

(5.) The standard of qualification will be 75 for pass, 75 for special mention.

(6.) In no circumstances will officers of Auxiliary Forces be permitted to go up for this examination except in the districts in which their regiments are located.

(7.) Officers who may be granted certificates will be allowed to have the letter (t)\* inserted after their names in the monthly *Army List*.

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\* In the August *Army List*, 1882, this was altered; so that officers who obtained "special mention" have a capital letter after their names, thus (T); and officers who only "passed," a small one, thus (t).

**EXTRACT from "QUEEN'S REGULATIONS" referred  
to in Foregoing GENERAL ORDER.**

*Syllabus.*

APPENDIX II. (3.)

TACTICS.

*Minor Headings.*

1. Meaning of "Tactics," as distinguished from "Strategy."

2. General Functions of Infantry—Its Characteristics and Weapons—Tactical and Fighting Units—Calculations of Time and Space occupied in Marches and Formations.

3. General Functions of Cavalry—Its Characteristics and Weapons—Tactical Unit—Time and Space occupied in Marches and Formations.

4. General Functions of Artillery—Its Characteristics and Weapons—Tactical Unit—Time and Space occupied in Marches and Formations—Projectiles used at various Ranges and against different Objects.

5. Time and Space occupied by the three Arms combined in Marches and Formations.

6. The Measures by which Armies obtain Security and Information, whether on the March or at the Halt.

7. Advanced Guards—Infantry, Cavalry, Infantry and Cavalry combined, or of all Arms.

8. Rear-guards—Infantry, Cavalry, combined, or of all Arms.

9. Outposts—Infantry, Cavalry, combined, or of all Arms.

10. Reconnaissance of the Enemy — The various

Methods of Effecting it—Infantry Patrolling, Cavalry Patrolling.

11. Screening and Reconnoitring Duties of Cavalry in advance of the Army.

12. Tactical Employment of Infantry in Action—The Attack—The Defence.

13. Tactical Employment of Cavalry in Action—Cavalry Attack—Dismounted Service of Cavalry.

14. Tactical Employment of Artillery in Action—The Positions and Objectives of Artillery in Attack and in Defence.

*Books Recommended, and Sources from which Information may be Obtained.*

“Clery’s Minor Tactics.”

“Instruction in the Duties of Cavalry Reconnoitring, &c.”

“Field Exercise of Infantry,” Parts V. and VI.

CONVENTIONAL SIGNS USED IN  
MAKING ROUGH SKETCHES.

GUNS IN POSITION..... 卐 卐 卐 卐 卐 卐

GUNS ON ROAD.... 卐-O=== 卐-O===

TROOP OF CAVALRY } -----   
IN LINE

DITTO ON ROAD ----- 

A SINGLE TROOPER..... ○

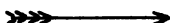
COMPANY OF INFANTRY  
IN LINE ----- 

COLUMN OF INFANTRY  
ON ROAD ----- 

SINGLE INFANTRY SOLDIER... ○

BRIDGE OVER RIVER.... 

DISTANCES BETWEEN  
POINTS THUS 

LINE OF ADVANCE  
OR DIRECTION THUS 



## QUESTIONS AND ANSWERS ON TACTICS.

---

*Q. 1.* How would you determine the extent of front that a cavalry division would cover with its reconnoiters during an advance? What is the general limit given?

*A.* The extent of front would depend on the power of the commander to control the direction of the whole, and to send back information with sufficient rapidity from the most advanced parties to commander in rear. These requirements would be met with a front of 20 miles.

*Q. 2.* Why is it more tiring for soldiers to march on roads in large bodies than small ones? What are the relative positions of cavalry and artillery in the order of march when near an enemy? State reasons.

*A.* As a column lengthens, its pace becomes more unequal, checks more frequent, time taken longer; result, greater fatigue. Artillery would come in forward part of column, cavalry in latter. Modern warfare requires artillery in the early stages of the fight; therefore, it is placed well forward, so that it can come easily into action. Cavalry is now more required to follow up and confirm a success than gain one; therefore, it is placed in rear. This, of course, does not take into account the cavalry covering the advance.

*Q. 3.* Is it advisable to use detached parties to cover



the flanks of columns in night marches? Give your reasons.

*A.* They should be avoided, as they are apt to lose their way, and are likely to be mistaken for the enemy, and fired upon.

*Q.* 4. What are the reasons that limit the number of batteries assigned to an army?

*A.* A greater number of batteries than can be brought into action is bad, as they block up roads, hamper movements, and take men from the fighting force to protect them.

*Q.* 5. Why, in attacking a position, should infantry fighting line advance without firing as long as possible?

*A.* Because the fire of an attacking force does not gain its maximum effect till about 400 yards from point attacked; shots fired before that are more or less wasted.

*Q.* 6. Ponsonby's Brigade at Waterloo made a successful charge, yet it suffered heavy loss; how was this?

*A.* The reserve line becoming involved in the attack of the first line, although defeating the French, were, while in the disorder of pursuit, attacked by the French reserve cavalry, and suffered great loss, through having no formed body of cavalry to oppose them. (See "Clery," page 126.)

*Q.* 7. Are there occasions on which cavalry should be used against unbroken infantry, notwithstanding the certainty of the loss which must be sustained? Give your opinion, and support by any instance you may remember in history.

*A.* Yes, when the whole of your infantry force is engaged, and in danger of defeat, cavalry must be

used, though at a loss, to enable infantry to extricate themselves ; as in the case of the Prussians at Mars-la-Tour, in 1870. (See "Clery," page 131.)

*Q.* 8. Which arm performs the chief duties of screening and reconnoitring the front of an army ? How is this arm distributed in an army corps ?

*A.* The cavalry arm. In an army corps each division has its own regiment of cavalry ; besides which, each army corps has its special cavalry brigade, of 3 regiments.

*Q.* 9. What are the duties of commander of a picquet ?

*A.* He should take down in writing the instructions received ; he is responsible for the safety of his post, is not to go beyond reach of his picquet ; he must, as far as possible, acquaint himself with the nature of the immediate ground ; he must examine all obstacles in front of his position ; if marshes or streams, find where they are passable ; determine what he would do if attacked ; in which case he would hold his ground till his flanks were being turned, and then fall back as slowly as possible. He should make a sketch of the ground he occupies, and, if possible, measure the distance to certain points that are in range, so as to be able to open an effective fire if attacked.

*Q.* 10. What would be done by a sentry if (*a*) an armed party, (*b*) a civilian, (*c*) an armed soldier or deserter, (*d*) a flag of truce, severally approached his post ?

*A.* (*a*) Fire on them, and alarm picquet ; if the party continues to advance, he must fall back slowly in direction of picquet ; (*b*) direct him to the nearest road on which an examining party is stationed ; (*c*) order them to halt, and lay down their arms, and then guide them

unarmed to the picquet; (*d*) order it to halt outside sentry line, and send for commander of picquet.

*Q.* 11. What is the difference between the position of the picquet, as regards the sentries it supplies, by day and night?

*A.* Picquets by day are posted in rear of their sentry line, on a road, if possible, not more than 400 yards from their sentries; at night they must be advanced to a position nearer the sentry line, or the sentry line drawn back. These alterations should not be made till dusk, so as to prevent the enemy seeing that any change is being made.

*Q.* 12. With what special articles should an officer going on outpost duty be provided with?

*A.* Field glasses, magnetic compass, map of country, memorandum book, compasses, and appliances for making a rough sketch.

*Q.* 13. What are the rules with regard to bugles and drums on outpost duty?

*A.* That they are never used except to sound the "alert."

*Q.* 14. What will picquets do an hour before daylight?

*A.* Get under arms.

*Q.* 15. Write a Picquet Report to inform the commanding officer that columns of dust and rumbling of wagons have been seen and heard passing across the front.

*A.* From Officer Commanding No. 5 Picquet.—May 4th, 1881, 7 A.M.—Sir,—I beg to report that I consider the enemy is making a movement to the west, as noises of wagons have been heard in the distance, and clouds of dust are visible in the direction of the village of Norton. A local labourer, who came in a short time since, reports that there has been great movement

among the enemy since daybreak. No patrols have been seen this morning, and my reconnoitring patrol reports that no sentries are visible.—I have the honour, &c., &c.

*Q. 16.* For what are small reconnoitring parties used? and what is their distribution on the march?

*A.* To search for enemy, approach and examine his position; to explore a limited area of country. They will generally be composed of cavalry, and will be pushed forward boldly to front and flanks.

*Q. 17.* Explain the essential difference between the tactical systems of Frederick and Napoleon.

*A.* The general principle of Frederick was forming a line oblique to and outflanking his enemy; his attack was given in line, and after a heavy fire it was generally followed by a bayonet charge in line; no skirmishers were used. Napoleon's system was to attack in line of battalion columns at deploying intervals; these columns were preceded by a dense cloud of skirmishers, and aided by artillery fire; after which the line of columns made their attack; if a greater development of fire was needed, they deployed, but column was reformed prior to advancing again.

*Q. 18.* At about what range from an enemy's position would advancing infantry deploy?

*A.* If under any artillery fire, at about 3,000 yards; if under infantry fire, at about 1,000 yards.

*Q. 19.* When outposts are under the command of a specially appointed officer, and the line of front is very long, what extent of front would usually be assigned to each "commander of outposts"?

*A.* About 3 miles.

*Q. 20.* In posting sentries, what is the maximum distance an infantry sentry should be posted from his picquet?

*A.* 400 yards.

*Q.* 21. What considerations determine the distance which may intervene between the reserve and supports of outposts?

*A.* Favourable ground, or the reverse, would determine the distance; it would also vary with the strength; it will seldom be less than half a mile.

*Q.* 22. Give an instance in the Franco-Prussian War by which most grave results have been occasioned by the neglect of properly using a cavalry screen.

*A.* The French, in 1870, marching from Rheims to Sedan, had their right flank open to attack from the Crown Prince. Two divisions of cavalry were available, yet none were used to reconnoitre in this direction; result, surprise and defeat at Beaumont of 5th Corps. (See "Clery," page 44.)

*Q.* 23. Four battalions of infantry, each of 8 companies of 100 men, 2 regiments of cavalry, 400 men each, and 1 battery of artillery, are ordered to march from Newport to Broaddown, a distance of 20 miles; infantry to start at 6 A.M. At what hour should the cavalry and artillery start to arrive at same time as infantry? Show calculations.

*A.* If infantry move at 3 miles an hour, cavalry at 5 miles, and artillery at 4 miles, then—

3) 20 miles

$6 - 2 = 6$  hours 40 min., time taken by infantry.

4) 20

$5 = 5$  hours, time taken by artillery.

5) 20

$4 = 4$  hours, time taken by cavalry.

So that if infantry started at 6 A.M., they would arrive at

12.40 P.M. Artillery would start 1 hour 40 minutes later—viz., 7.40 A.M. Cavalry would start 2 hours 40 minutes later than infantry—viz., 8.40 A.M. It must be noted that the heads of the various columns only would arrive at Broaddown at 12.40 P.M.; so that if it were desired to know the exact time that they could actually form up again, the lengths of the various columns must be taken into account.

*Q.* 24. How does the nature of ground affect cavalry and infantry?

*A.* Open, level ground favours the action of cavalry; more so if it has dips and hollows in which cavalry can approach infantry unobserved; in close, broken country they cannot act on the offensive. Infantry are favoured by country that gives plenty of cover, and are most exposed to attack in ground good for cavalry.

*Q.* 25. On what are moral and physical superiority dependent?

*A.* Moral superiority is derived from stricter discipline, a better cause, previous successes, or similar influences. Physical superiority is derived from numbers, training, and weapons. (See "Clery," page 1.)

*Q.* 26. What are the duties of the "commander of outposts"? and what instructions would he give to the subordinate leaders?

*A.* He will examine the ground before the various detachments move up, fix the sentry line, define limits of each picquet, select positions of supports and reserves; will see that flanks are secure, will send back at once any information gained to commander of main body. He will give instructions as to the general line of front, define ground to be occupied by each picquet, what is known of enemy, where to patrol, what to do if at-

tacked, how far each post is to be fortified, how to treat flags of truce and deserters, nature and frequency of reports.

*Q. 27.* A force consisting of 4 battalions of infantry, each 600 strong, in "fours," 2 squadrons of cavalry, of 40 files each, in "sections," and 2 batteries of field artillery, with wagons, in "column of route," is marching along a road; calculate the length of column on road, and the length it would occupy when deployed in line. Show your calculations.

*A.* Allowing 2 feet to each infantry man in line—

600 men ... = 600 feet

Add 8 right

guides ... = 16 „

Colour party = 6 „

Guide on left

of line ... = 2 „

---

624 feet = 208 yards = front of 1 battalion.

4

832 yards = front of 4 battalions.

Add 3 battalion inter-

vals of 25 yards ... = 75

---

907 yards = total front of in-  
fantry in line.

Allowing 1 yard to each file of cavalry in line—

40 files = 40 yards × 2 ... = 80 yards.

Add 1 squadron interval ... = 12 „

---

Total front of cavalry ... = 92 yards.

Allowing 19 yards between gun and gun in line—

$$\text{A battery} = 19 \times 5 \dots \dots = 95 \text{ yards.}$$

2

---


$$190 \text{ yards.}$$

$$\text{Add battery interval} \dots \dots = 28\frac{1}{2} \text{ „}$$

---


$$\text{Total front of artillery} \dots = \underline{\underline{218\frac{1}{2} \text{ yards.}}}$$

Then, supposing artillery is on the right, infantry in centre, and cavalry on left of line—

$$\text{Total front of artillery} \dots \dots \dots 218\frac{1}{2} \text{ yards.}$$

$$\text{Interval between artillery and infantry} \quad 28\frac{1}{2} \text{ „}$$

$$\text{Total front of infantry} \dots \dots \dots 907 \text{ „}$$

$$\text{Interval between infantry and cavalry} \quad 25 \text{ „}$$

$$\text{Total front of cavalry} \dots \dots \dots 92 \text{ „}$$

---


$$\text{Total front of force in line} \dots = \underline{\underline{1,271 \text{ yards.}}}$$

### *On Road.*

For artillery in “column of route” allow 15 yards each gun and wagon—

$$\text{For 2 batteries} = 24 \times 15 \dots \dots = 360 \text{ yards.}$$

Add 4 yards interval between each gun

$$\text{and wagon in each battery} = 4 \times$$

$$11 = 44 \times 2 \dots \dots \dots = 88 \text{ „}$$

$$\text{Add interval between batteries} \dots \dots = 28\frac{1}{2} \text{ „}$$

---


$$\text{Total length of the 2 batteries} \dots = \underline{\underline{476\frac{1}{2} \text{ yards.}}}$$

$$\text{Infantry in “fours” equal front in line} = \underline{\underline{907 \text{ yards.}}}$$



Cavalry in "sections" = double front						
in line, less squadron interval =						
92	×	2	=	184	—	12 ... .. = <u>172 yards.</u>
Artillery	...	...	...	...	...	= 476½ yards.
Interval	...	...	...	...	...	= 28½ "
Infantry	...	...	...	...	...	= 907 "
Interval	...	...	...	...	...	= 25 "
Cavalry	...	...	...	...	...	= 172 "

---

Total length of column on road = 1,609 yards.

*Q.* 28. What is the difference between a formation for marching and one for fighting?

*A.* The end to be obtained in a formation for marching is the best method by which troops can be moved over a certain tract of country in such a manner that offers the greatest facilities for food-supply, and also gives an opportunity of moving the various arms on separate roads. A fighting formation has in view the best disposition of troops for attacking, and aims at the various columns reaching a certain locality in a certain time.

*Q.* 29. What has been the general effect of the introduction of breech-loading rifled arms on the tactical formations of infantry in action?

*A.* That the old close formations have been abandoned, and that an infantry attack is now made by a line at very extended order, which line is fed as it advances by other lines following; so that, as the point of attack is approached, the advancing force becomes denser, till it comes to the final rush on the position. A fighting formation now aims at giving the greatest development to fire, with as little exposure as possible while advancing.

*Q. 30.* Briefly explain the characteristics of the three arms—infantry, cavalry, and artillery—dwelling on the special adaptability of each for attack and defence.

*A. Infantry.*—Weapons are rifle and bayonet ; can engage with fire at a distance, or hand to hand ; can move nearly anywhere ; is more independent of nature of ground than any other arm ; can come into action more easily than other arms ; can use its weapons at once with effect ; is less liable to lose its efficiency than other arms ; is equally adapted for attack or defence ; can protect itself ; is cheaper, and more easily trained and recruited than the other arms.

*Cavalry.*—Its force consists in the combined action of man and horse. Its weapon, the sword, can be quickly moved ; can seize fleeting moments for action. Its strength in collision is as the intensity of the shock. Its power of rapidly striking is demoralizing on the other arms ; its moral effect is in undue proportion to its strength. It is easily put out of order, slow to rally ; its action dependent on ground. It has small defensive power, is expensive, and takes long training.

*Artillery.*—Its action is by fire only, and at ranges at which infantry would be useless ; the only arm that can destroy obstacles at a distance ; can extend its action over barriers by curved fire. Its moral effect on troops is great, but it is bulky, complicated, easily put out of gear, takes great space, wants great supplies, changes position with difficulty, useless when moving, defenceless at close quarters ; ground and weather affect it. Of all arms, the most difficult to train and recruit.

*Q. 31.* Explain the necessity of distinguishing between cover from view and cover from fire, in utilizing ground for the protection of troops in action.

*A.* A hedge gives cover from view, but not from fire. Men, not taking this into consideration, are apt to get behind such cover in great numbers, which, on being found out by the enemy, is likely to lead to heavy loss.

*Q.* 32. What kind of ground is most suitable for the action of artillery?

*A.* Elevated ground, level enough to work the guns on, with extensive command and good line of retreat; gradual slope towards enemy; soft ground, or marsh, is good in front, as being useful to stop projectiles falling there.

*Q.* 33. What are the limits of the effective range of field artillery? Explain the disadvantages of frequent change of position of artillery during an action.

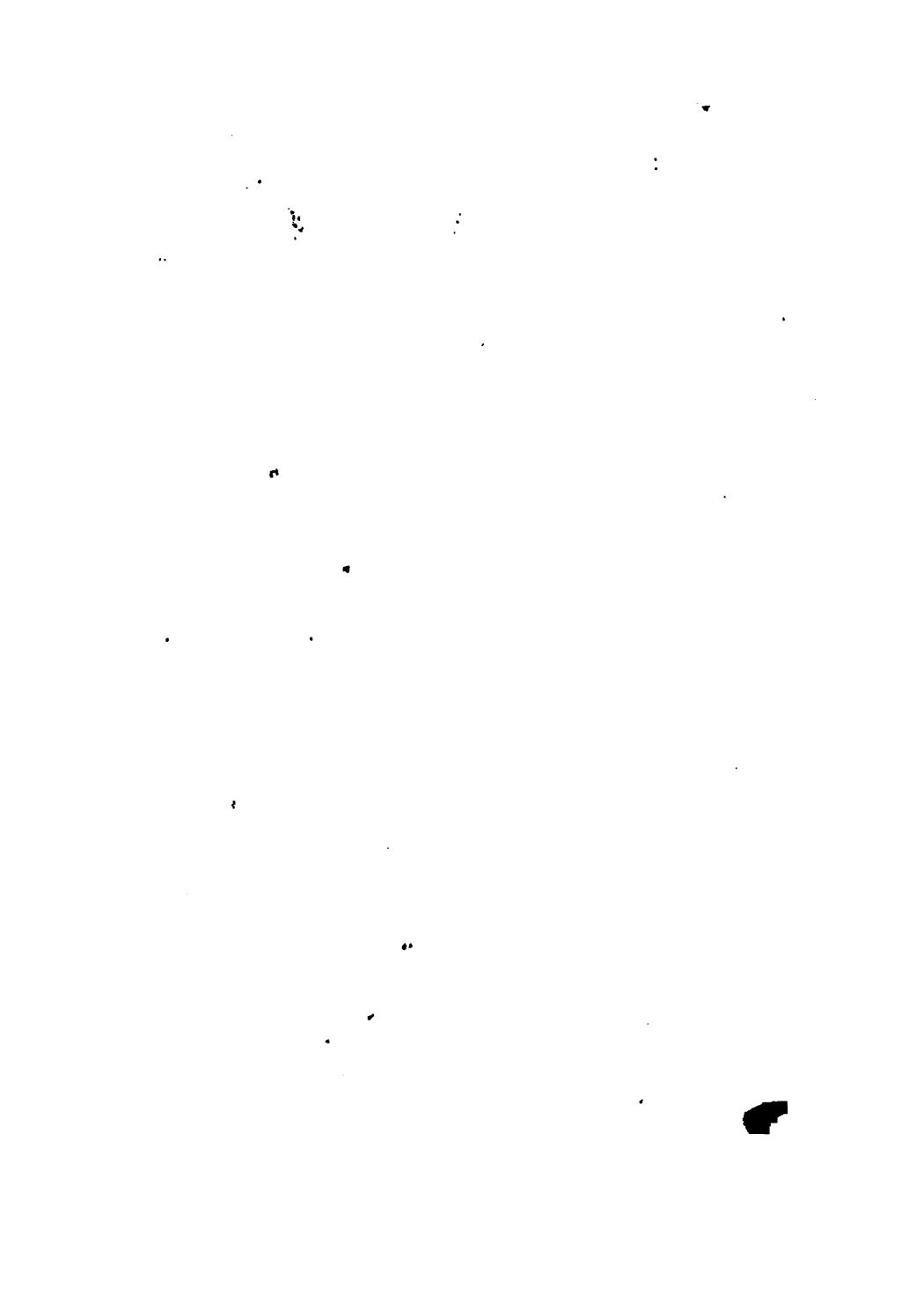
*A.* About 2,500 yards; but, with modern ordnance, the effective range is curtailed, more by the distance that can be seen than by the power of the gun. When guns are moving, they are practically useless; therefore, a position should be selected at the outset that will necessitate as little change as possible during the action.

*Q.* 34. What is the meaning of the term "mobility"? and on what does the mobility of an army depend?

*A.* Mobility is the power of massing numbers on a certain place in a certain time. It is dependent on the power of marching in the men, and on the power of feeding and clothing them.

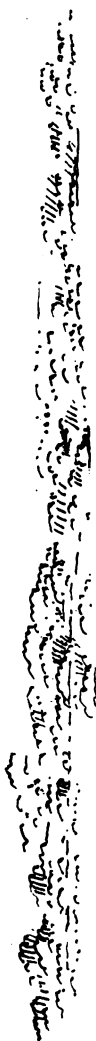
*Q.* 35. Explain the necessity of a reserve, and of protection to the flanks, in a cavalry engagement. Illustrate your answer by some example from actual warfare.

*A.* A reserve is needful, so that if the attack of the first line is unsuccessful, the retreating troops can have a body to rally behind; also the side that can

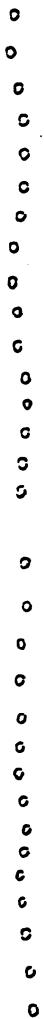


SKETCH - A.

WOOD



200 Yds. 150 Yds. 500 Yds.



Nos 1-3



Nos 2-4



bring the last fresh squadron on the field is generally the victor. The flanks being the weak points of cavalry, these must be protected by the reserve; so that even if a body of cavalry made a successful charge, and their flanks were attacked by a fresh body of the enemy's cavalry, they must be broken up, if without support. Murat's charge at Leipsig and Ponsonby's at Waterloo are examples. (See "Clery," page 125.)

*Q.* 36. A battalion of 8 companies is ordered to advance over open ground to make a direct attack upon a wood, 1,500 yards distant, held by 6 companies of the enemy; the flanks of the wood cannot be turned. Describe the formation in which the attack would be made, and give rough sketch of same, showing attack developed.

*A.* Before commencing the advance over the open ground, complete the extension of the first line—*i.e.*, 2 companies—as in the ordinary attack formation. This line will then advance as quickly as possible; very little firing should take place till 400 or 500 yards from wood. At this distance, the first line should lie down in any slight depression that presents itself, and open a heavy fire at the edges of the wood, where held by enemy. Advances by rushes of half-companies will now be made, till within about 200 yards of wood, when the second line, which has been moving 150 yards behind first, will reinforce. The third line will follow the second pretty closely, not in extended order, but with its 4 companies distributed so as to be ready to bring an extra fire to bear on any particular point, and so endeavour to force the edge in one or more places. When the extent of front the enemy is holding is apparent, either of the flank reserve companies may be moved to the right or left of the actual front.

defended, so as to make an entrance, if possible, and take the defending line in flank. After this flanking movement is developed, it may be well to push the remainder of the reserve companies at the centre, as it may be assumed that the enemy, on seeing his flank threatened, has moved part of his reserve to that point, and, consequently, denuded his centre. (See Sketch A.)

*Q.* 37. State the most favourable circumstances and most suitable formation for an attack by cavalry on artillery.

*A.* Artillery is most open to attack when caught unsupported, when moving, or when it has suffered in men and horses. The cavalry attacking should do so in two parts, one to attack the guns in extended order, the other to attack the escort in close order.

*Q.* 38. Explain clearly whether improvements in fire-arms or in hand-to-hand weapons have had the greater effect of modifying the relative value of the three arms during recent years.

*A.* The improvements in fire-arms have had the greater effect, as guns cannot now be brought with safety within 1,000 yards of infantry; neither can cavalry attack good unbroken infantry with any chance of success; so that the change is in favour of the infantry weapon.

*Q.* 39. What is the ordinary strength of visiting and reconnoitring patrols? State reasons.

*A.* A visiting patrol is composed of a non-commissioned officer and two men; no more are needed. Their being used is only a precautionary measure, and all extra duties to men on picquet should be avoided. Reconnoitring patrols have no fixed number; it must depend on circumstances. Their duty is to find out

position of enemy, and, if possible, not to fight ; no more men should be used than needed for safety ; two men can see as much as twenty. (See "Clery," page 17.)

*Q.* 40. Show how far an obstacle, the passage of which is difficult, such as a river or marsh, is favourable or the reverse to troops acting on the defensive, when it lies—

- (a) Parallel to, and in front of, the position held ;
- (b) Parallel to, and in rear of, the position held ;
- (c) At right angles to, and traversing, the position held ?

*A.* (a) Favourable to defenders, as detaining enemy under fire in broken order. A marsh in front of a position is useful, in holding all projectiles that fall in it, and so preventing casualties from "ricochet" fire.

(b) Unfavourable to defenders, as, in the event of having to retire, its line of retreat would be almost *nil*, and utter rout would probably ensue.

(c) Bad, as cutting the line of defence in two, and thereby preventing mutual support being given to either divided portion of defending line.

*Q.* 41. What are the formations ordinarily used by cavalry, artillery, and infantry in marching along roads?

*A.* Cavalry, in "sections ;" artillery, in "column of route ;" infantry, in "fours."

*Q.* 42. Under what circumstances are the three arms respectively employed on outpost duty ?

*A.* Cavalry are used in an open country, when the enemy is at a distance, and by day. Infantry are used in a close country, when the enemy is at hand, and by night. Artillery are used when any special points are to be guarded, such as a defile or bridge.

*Q.* 43. Explain the mode in which a body of



infantry employed on outpost duty is usually subdivided, and state briefly the special duties of each portion of the force.

*A.* It is divided into (*a*) a line of sentries, (*b*) a line of picquets, (*c*) a line of supports, (*d*) a reserve. Their duties are—sentry line to watch all movements of the enemy, and resist his advance; picquets to furnish reliefs to sentries, find patrols, and help sentry line if attacked; supports to assist picquets if attacked; the reserve to furnish a point of resistance to picquets and supports. The whole to draw a curtain round the force it is protecting, and give it time to form up in the event of the enemy advancing in force.

*Q.* 44. A combined force of the three arms is ordered to attack an entrenched position; describe briefly the part ordinarily taken by each in preparing for, and in carrying out, the attack.

*A.* The attack would be opened by heavy artillery fire. The guns should be placed in such a position at commencement of the attack as not to necessitate removal during its progress. Their fire would, in the first case, be directed against the enemy's guns, till more or less brought under. During the advance of the infantry, the fire of the artillery should be brought to bear on the enemy's infantry, and maintained till the last possible moment. As soon as the infantry have carried the position, guns should at once be advanced to assist them in holding it. They should not be brought under infantry fire. On the infantry will devolve the main part of the work. During the first action of the artillery they must be kept under cover as much as possible. When the enemy's guns have been silenced, the infantry will advance under cover of the artillery, and carry the

position. The part that cavalry take in modern warfare is much reduced. During the attack they must be kept under cover, near at hand. Their attention will be directed to the flanks—*i.e.*, to protect their own, and watch for a chance of attacking the enemy's. If the enemy's infantry have been badly repulsed, or are in disorder, then is the time for the action of cavalry. These chances must be seized at once, or opportunity is gone. In addition to this, on cavalry falls the duty of making good a success. What infantry has made a defeat, cavalry and artillery should convert into a rout. (See "Clery," page 153.)

Q. 45. What are the chief points to be noted with regard to a wood which it is proposed to occupy for defence?

A. Its size ; nature of growth, both internal and at edge ; what clearings and houses ; the latter, how far defensible ; if the country is hilly or level, dry or marshy ; what roads or paths, and their nature and direction ; if traversed by streams ; if so, how passable and defensible.

Q. 46. Describe the manner in which you would proceed to place a wood in a state of defence.

A. Erect obstacles at entrance ; form inner line of defence ; use "abattis" at most exposed points ; roads leading from enemy to be broken up or defended at entrance into wood. If there are no banks on edge of wood, construct a shelter-trench, if time permits ; clear ground in front, and measure distance to various points at which enemy would become visible.

Q. 47. State briefly (*a*) the object of outposts ; (*b*) the position of outposts as regards main body ; (*c*) what considerations must mainly regulate the distance between the main body and its outposts.

*A.* (*a*) An outpost is a body of troops thrown out by an army to protect it from surprise, and to keep a watch on movements of enemy; (*b*) its position should be such as to cover the front and protect the flanks of the army in rear; its general line should follow a commanding ridge, the edge of a wood or river, so as to have a position for observation and resistance. (*c*) The outposts should be so distant as not to be driven in on main body before the latter has had time to form up, and they must not be so far in advance as to risk being cut off.

*Q.* 48. What points should be kept in view in posting sentries—(*a*) by day, (*b*) by night?

*A.* (*a*) That they have good view to front and flanks; are hidden from enemy; are connected with other sentries and with picquet; have clear view of any road or path in their neighbourhood; that no ground between two sentries is unseen by both; they must be economised as much as ground will permit. (*b*) At night they should be placed, if possible, so as to see any one approaching them against the sky-line, while not seen themselves; but as the approach of persons can only be detected by listening, and sound ascends, they must not give up the advantage of high ground, neither must they be posted near any wood or cover from which a sudden rush could be made on them.

*Q.* 49. What information should be given sentries?

*A.* They should be told how to act in the event of being approached by civilians, deserters, armed parties of enemy, or flags of truce. They should also be informed of exact position of other sentries, of examining guard, of direction of enemy, of position of picquet.

*Q.* 50. How should a small cavalry reconnoitring party be formed that is sent out to search for enemy, so as to guard against surprise?

*A.* Two troopers in advance; 50 yards in rear, a single trooper; at 50 yards further back, the main part of party, with flankers out on each side; 50 yards back, a single trooper; 50 yards behind, two troopers as rear-guard.

*Q.* 51. If you were sent to reconnoitre a position in detail, what chief points would you note?

*A.* The strength of picquets, and of what composed; how posted; if roads are obstructed; if a good look-out is kept; if any guns in position; is sentry line perfect; how far off main body appears to be.

*Q.* 52. What are the general rules as regards halting? What is the custom in the Prussian Army on same point?

*A.* To halt half an hour after starting, and once every hour after. The Prussians halt three-quarters of an hour after starting, and when the total distance is under fourteen miles, a second halt of half an hour mid-way; when total length of march exceeds fourteen miles, halt every two hours.

*Q.* 53. An officer observes from a distance that a body of the enemy's infantry takes 40 minutes to pass a tree on the road. He can see that they are marching in "fours," well closed up, with ordinary intervals between battalions. He estimates they are going at the rate of 3 miles an hour. State what you consider the approximate number of the force, and show calculations.

*A.* Infantry moving 3 miles an hour = 88 yards per minute  $\therefore 88 \times 40 = 3,520$  yards, that pass the tree. Now 300 men in "fours" = 100 yards  $\therefore 3,520 \div 100 = 35.2$

= in round numbers,  $35 \times 300 = 10,500$  men; but this number of men, we may assume, is in 10 battalions, which would give 9 battalion intervals of 25 yards = 225 yards. Now 225 yards in "fours" = 675 men to be deducted; thus,  $10,500 - 675 = 9,825$ , or, in round numbers, 9,800 men that passed the tree in 40 minutes.

*Q. 54.* In a country favourable for the action of cavalry, 1 squadron of cavalry, a battalion of 8 companies of infantry, and a section of sappers form the van-guard of an advanced guard. Describe duties of squadron, and what formation you would adopt for above force.

*A.* A quarter of a troop would be extended so as to cover about a mile and a half of front; these, followed by another quarter of a troop at 500 yards' distance, moving in rear of centre in close order; then at 400 yards the remainder of cavalry—*i.e.*,  $1\frac{1}{2}$  troops, with flankers thrown out on each side; 100 yards behind these, half-company of infantry; 200 yards behind,  $1\frac{1}{2}$  companies of infantry; and the remainder of infantry and sappers 400 yards further to the rear.

*Q. 55.* State generally what are the main objects in view in all formations for attack by infantry.

*A.* Greatest development of fire, greatest mobility, and the most difficult target for enemy.

*Q. 56.* How should cavalry manœuvre in order to attack artillery in position with the best chance of success? Supposing guns to be supported by a cavalry escort, how should the attack be conducted?

*A.* They would manœuvre so as to gain the flank or rear of the guns. In the event of their having a cavalry escort, the attacking cavalry should be divided into two parts; one to attack the guns in extended

order, the other to attack the escort in close order. A certain portion should also act in reserve.

*Q. 57.* What are the different kinds of projectiles used by field artillery in action? Under what conditions would each be used most effectively?

*A.* (a) Common shell; (b) shrapnel; (c) case. (a) Against troops in masses or behind cover, or for enfilading troops in line; against artillery, if the object is to destroy guns or carriages, or to batter down obstacles. (b) Against troops in line or extended order; against artillery, if the object is to destroy men or horses; and against troops behind slight cover. (c) Case is used against troops under same conditions as shrapnel, but can only be relied on up to 350 yards.

*Q. 58.* Show how a small force, skilfully managed, may delay the advance of a much larger force. Give example from history.

*A.* A small force may retard the advance of a large one by occupying a succession of defensive positions on its line of retreat, and making a show of fighting. To meet this, the enemy has to deploy a portion of his force, and loses time by so doing. The defending force, as soon as its flanks are threatened, at once falls back, only to repeat the same tactics at the next favourable point on the line of retreat. Ney's rear-guard action on the Redinha is an example. (See "Clery," page 209.)

*Q. 59.* What circumstances would influence you in determining the plan of defence you would adopt to hold a village? and where would you commence your works of defence?

*A.* The time and means of making defences, and the number of men you have to defend it with. The work of defence should begin at the exterior of the village, so

as to prevent enemy taking advantage of any obstacles there to attack you if you had only occupied the interior.

**Q. 60.** Suppose 2 brigades, each 5,000 strong, to be watching a river between two points, 10 miles apart, with the object of opposing the passage of an enemy; show by a diagram how the brigades might be placed to insure that 5,000 men could be marched to any part of the river-line within an hour's notice, and that 10,000 could be marched to the centre in the same time.

**A.** Either of the brigades could be moved  $2\frac{1}{2}$  miles to either flank within an hour; and if they moved inwards, they could concentrate on the centre 10,000 men in an hour; therefore, 5,000 men could be placed at any spot within an hour. (See Sketch B.)

**Q. 61.** From which side of a river is it generally most advantageous to defend a ford? State reasons.

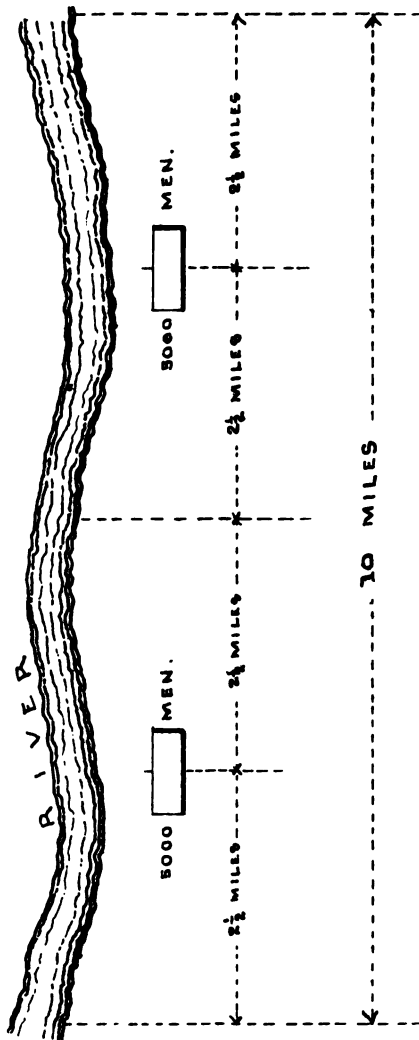
**A.** On the side furthest from enemy; because, if the defending force were defeated, they would have to retreat over the ford, and thereby show its position to enemy; or they might be driven into the river and cut up. On the other hand, if we defend a river from our own side, the river itself acts as an obstacle, and detains the enemy under fire of defenders; their formation must be more or less broken up, so that they are not in such good condition to attack.

**Q. 62.** What is the disadvantage of fighting in woods, and what special qualifications on the part of subordinate officers are necessary to overcome this disadvantage? Give an instance of fighting in woods, in support of your answer.

**A.** The disadvantage is that all tactical formations are broken up. Great intelligence is required on the part

# SKETCH. B.

ENEMY'S SIDE.







of the subordinate officers, who must be prepared to act with decision, so as to be ready to take command of the various groups of men into which the attack is sure to develop. The fighting in the Niederwald at Worth. (See "Clery," page 295.)

*Q.* 63. Define the following terms as applied to "Tactics:" (*a*) "column of route," (*b*) "squadron interval," (*c*) "depth of a position," (*d*) "battalion intervals," (*e*) "divisional battalion," (*f*) "escort" (artillery).

*A.* (*a*) The ordinary formation of battery when moving on a road—viz., each gun followed by its wagon at 4 yards' distance, and so on; (*b*) the 12 yards' space allowed between squadrons of cavalry in line; (*c*) the distance from front to rear in a perpendicular line to the front; (*d*) the 25 yards' space allowed between battalions in line; (*e*) the battalion of Rifles attached to a division—*i.e.*, the 7th Battalion; (*f*) the body of cavalry or infantry detailed for the defence of guns in position or on march.

*Q.* 64. How does an army provide for its security when advancing into an enemy's country—(1) on the march; (2) when halted?

*A.* (1) By an advanced guard thrown forward from 5 miles to a day's march in advance, this advanced guard being itself preceded by a cavalry screen at a distance of from 15 to 20 miles; (2) by a system of outposts furnished by a body of troops specially detailed. The distance of these from the main body varies with circumstances, but they must never be so near that they could be driven in before the force in rear had time to form up.

*Q.* 65. How long would 4 battalions, 1,000 strong, in "fours," 1 battery of artillery, in "column of route," and

3 squadrons of cavalry, each 48 files, in "fours," take to pass a point at 3 miles an hour?

*A.* Allow 1 minute for every 88 yards in length of column, and calculate on same data as Question No. 27. Remember to allow the ordinary intervals between the arms.

*Q.* 66. What length of line would the above force occupy; the infantry in the centre?

*A.* Calculate on same data as Question No. 27.

*Q.* 67. Assuming a cavalry regiment to be 400 strong (in 4 squadrons), and an infantry regiment to be 800 strong (in 8 companies), what space will a division require to deploy into line? Show calculation.

*A.* To be worked out from "space data," same as Question No. 27.

*Q.* 68. What length would the force mentioned in foregoing question take on a road: infantry in "fours," cavalry in "sections," artillery in "column of route"?

*A.* Calculate on same data as Question No. 27.

*Q.* 69. Explain by sketch the formation of an advanced guard moving on a road in enclosed country, and composed as under. Mark distances between the various bodies:—

2 battalions of infantry.

2 squadrons of cavalry.

Half-battery.

1 company engineers.

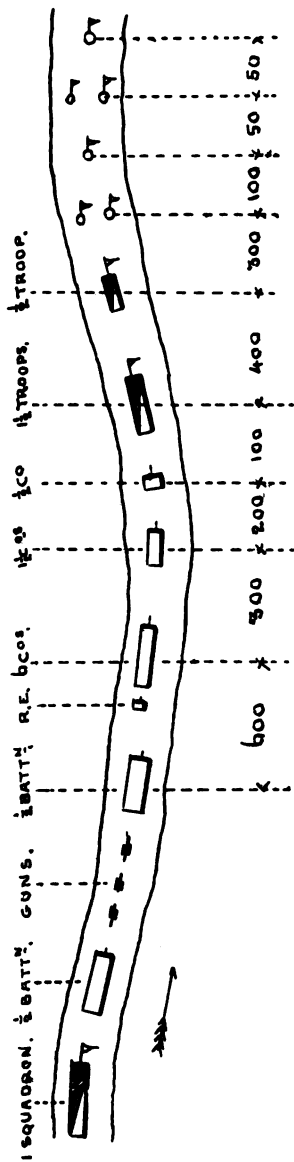
*A.* See Sketch C.

*Q.* 70. Make a sketch showing formation of a battalion of the first line when first extended for attack, showing the various parts and depths marked in yards.

*A.* See Sketch D.

*Q.* 71. What sort of country is most favourable for

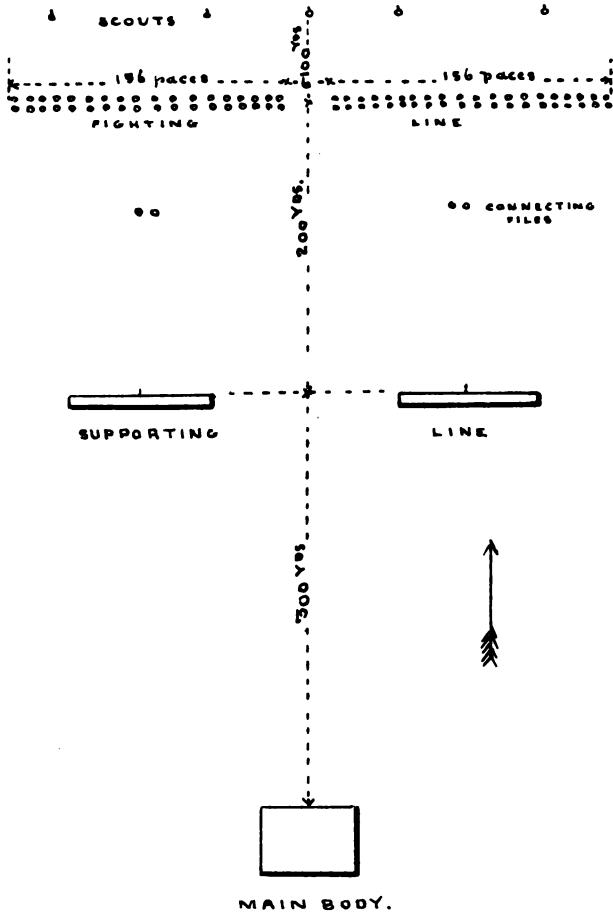
# SKETCH. C.



DISTANCES IN YARDS.



SKETCH D





the action of infantry: (1) when advancing to attack; (2) when acting on the defensive; (3) as compared with the other arms?

*A.* (1) Cultivated country, not too enclosed, and which offers plenty of cover, during advance, in the shape of ditches, banks, and dips in the ground; (2) elevated ground, with good cover for defenders—quite open in front, and on flanks; (3) as compared with other arms, infantry is most independent of nature of ground for its action; minor obstacles, that are unimportant to infantry, materially affect or prevent the action of artillery and cavalry.

*Q.* 72. Where, as regards guns, should the escort of a battery of artillery in position be placed: (1) supposing it to be composed of cavalry; (2) supposing it to be composed of infantry?

*A.* (1) 100 yards in rear of guns, under cover; (2) 500 yards in front of guns, under cover.

*Q.* 73. In defending a wood, where would you place your artillery—(1) when the wood is of considerable size? (2) when it is small? State reasons for answers.

*A.* (1) I should place them inside edge of wood, at those parts that form an angle towards enemy. Such spots could be regarded as bastions, and the parts between them as curtains. The guns in them would give a flanking fire on other portions. The advantage of having guns inside a wood is that their presence is unknown to enemy prior to attack, and the gunners are protected. On the other hand, in the event of having to retire, great difficulty may be found in getting the guns through wood. (2) I should place them on the flanks of wood, as they could enfilade the attacking



force, and they would have a clear line of retreat if required.

*Q. 74.* If two armies of nearly equal strength are opposed, by what means is it possible that one may obtain the advantage of being numerically stronger when they meet in battle?

*A.* By one of them possessing superior "mobility" to the other.

*Q. 75.* What measures are embraced by the terms "outposts" and "reconnoitring"?

*A.* The former embraces all measures needful for the security of an army when halted; the latter, those for obtaining information of enemy when at a distance.

*Q. 76.* The officer in command of a picquet receives from a peasant information about the enemy; state what steps he should take, and to whom, and in what manner, he should report the information.

*A.* He should try to ascertain if the information is reliable; and, if so, he will at once report, in writing, to the commander of outposts, stating number of picquet it comes from, time of sending, and how it was found out.

*Q. 77.* State what points you would remark upon if sent in command of small reconnoitring party to examine and report on a village.

*A.* How situate, its size, nature of outskirts, size of streets, size and construction of buildings, nature of surrounding country, how far defensible, if near any important road or river.

*Q. 78.* What are the special advantages gained by cavalry from its power of rapid movement?

*A.* That it can be quickly moved from one point and applied at another. It can seize fleeting moments

for action. Its power of rapidly striking gives it great moral effect over other arms.

*Q. 79.* What instructions are given in the "Field Exercise" in regard to the division of a battalion formed for defence? In accordance with these instructions, what force would be suitable to defend 300 yards' front of a position?

*A.* A battalion formed for defence is divided as one formed for attack. The fighting line must be as thick as is compatible with a free use of the rifle at any point threatened. Supports must be close at hand, under cover. Main body, or battalion reserve, must be in central position at first, but when enemy's attack is developed, it must be moved to a point from where it can make a counter-attack. Three men per yard are allowed for defence of a position; therefore, a front of 300 yards would require 900 men.

*Q. 80.* State briefly the duties of a rear-guard, covering retreat of a beaten army.

*A.* To delay the advance of the enemy by all means in its power, so as to secure the uninterrupted retreat of the main body. Its duty is not to bring on an engagement, but only to threaten to do so.

*Q. 81.* What general principles of defence should be employed in posting an army with the view to prevent an enemy forcing the passage of a river?

*A.* To watch the entire river-line threatened, guarding in force only those points likely to be attempted, and concentrating in one or more central positions in rear the main body.

*Q. 82.* Explain why defiles in a theatre of war are important in a military sense. Give an example of a successful attack on a defile.

*A.* Because they permit an inferior force to hold in check a superior one. The action at Taufers. (See "Clery," page 259.)

*Q.* 83. Give some of the positions in which villages, from their situation, may become of great importance in a campaign as independent posts.

*A.* When they close a defile, command the passage of a river, form a connecting point in a circle of investment, or block a line of communications.

*Q.* 84. In a combined attack by infantry and artillery of a fortified village that is exposed to artillery fire from a distance, how should the attack be conducted?

*A.* The attacking infantry must not advance till the enemy's guns defending village have been greatly reduced, if not silenced; the infantry attacking line must advance in extended order, with the supports either in small bodies or extended; the reserve must be kept well under cover till the last moment.

*Q.* 85. In the defence of a wood, what is the chief advantage possessed by the defenders? and how should troops be disposed in order to maintain their superiority of position as long as possible?

*A.* The advantage is that a wood conceals the defenders from the enemy's view, and, therefore, aimed fire; the trees give shelter from bullets; enemy cannot tell position or numbers of defenders. The disposition of defenders should be such as will prevent enemy gaining border; the greatest defence must be made at the edge; obstacles placed in front of wood to keep enemy under fire, and protection given to defenders by shelter-trenches.

*Q.* 86. Give number of battalions, squadrons, and

guns in a British army corps at war-strength, and find space occupied by (a) a brigade of infantry in line, (b) a cavalry brigade on the march (cavalry in sections).

*A.* Calculate by table of "space data," same as in Question No. 27.

*Q. 87.* Why should a picquet never be posted in a house?

*A.* Because, in the event of being attacked in force, it would hold its position long after the picquets on the right and left had been driven back, and so would either be destroyed or captured without having attained any object.

*Q. 88.* A troop, whilst reconnoitring in the vicinity of enemy, comes in sight of a village, and is observed about one hour before nightfall; what should be done, and where should the troop pass the night?

*A.* The troop should at once fall back, and a retired spot be selected to pass the night in. Great care must be taken that none of the villagers follow the troop on retiring, as they might give information to the enemy, and so lead to a surprise.

*Q. 89.* A force, consisting of 3 brigades of infantry (800 in each battalion), 2 regiments of cavalry (350 each), and 6 batteries, has to march from A to B. There are two roads available—one 10 miles, the other 12 miles long. How would you march, and at what hour would you start each arm, in order to provide that the men dine at 1 P.M.? One hour is to be allowed for cooking on arrival at B.

*A.* Infantry would move on shortest road, guns and cavalry on the other; for data as to time, same as in Question No. 23.

*Q. 90.* What was the formation of attack used by

Napoleon in his earlier wars? and why would such a formation be wrong under present conditions of war?

*A.* Lines of battalion columns at deploying intervals, with clouds of skirmishers in advance; this formation would be fatal in opposition to troops armed with breech-loaders, as the greater mass of the men would be in such a position that only a fraction of them could use their rifles, and so would simply offer a target for the enemy.

*Q.* 91. What is a picquet? What considerations determine its strength?

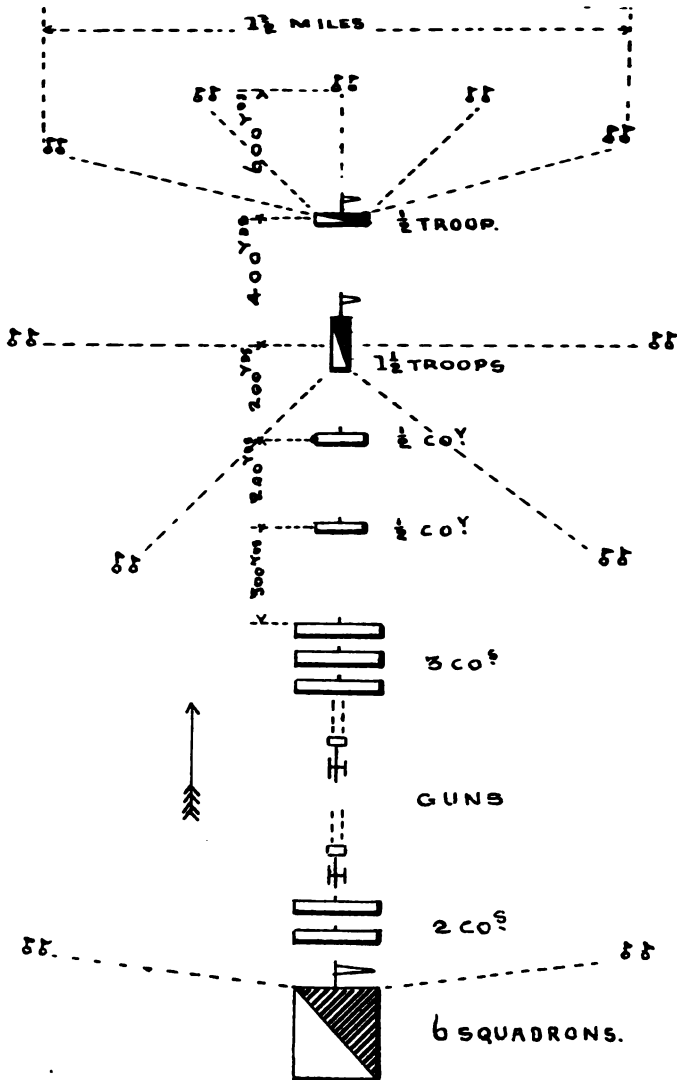
*A.* A body of men that forms part in the outpost system. Its strength is determined by the amount of resistance it is meant to offer, by the number of sentries it has to supply, and by the extent of ground that can be controlled by one man—*i.e.*, the commander of picquet.

*Q.* 92. On outpost duty with a picquet, what are the regulations on the following points: (*a*) the picquet remaining and getting under arms; (*b*) relieving sentries; (*c*) taking off accoutrements and valises; (*d*) paying compliments to superior officers; (*e*) lighting fires, and cooking; (*f*) sentries fixing bayonets?

*A.* (*a*) The picquet will remain under arms till all sentries are posted—will get under arms an hour before daylight. (*b*) Sentries are relieved every two hours; in severe weather or at night, every hour, if necessary. (*c*) Picquets are permitted to take off valises, but not accoutrements. Sentries are not permitted to take off valises if mounted with them. (*d*) No compliments are paid if a superior officer visits a picquet. The officer in command reports to him; the men take no notice of him unless addressed. If officer commanding visits



SKETCH. E.



a picquet, the men will only stand to their arms if ordered. (e) Fires are only allowed by special permission, and, when allowed, must be out of sight of enemy. The rallying point at night should be in rear of it. (In making fires, the use of green wood should be avoided, as it causes dense smoke, and indicates to enemy the position of picquet.) (f) Sentries will not fix bayonets on moonlight nights or in bright sun, as the flashing of light on them is visible at a great distance, and betrays them to enemy; in thick weather or on moonless nights they will always fix.

*Q.* 93. If in command of a picquet, what would you do in the event of a shot being heard in front?

*A.* Get entire picquet under arms, and send out patrol to sentry line, or go myself, to ascertain cause.

*Q.* 94. What is the object of an advanced guard? What proportion should the strength of advanced guard bear to that of the whole force? What considerations determine the distance by which an advanced guard should precede the force it covers?

*A.* To prevent an army coming suddenly on an enemy, when the head of the column might be overthrown before time or space permitted those in rear forming up to support it. For a large force, about a fourth; for a small one, a sixth. It should be so far in advance that, if attacked, the force in rear would have time to form up before it could be reached by enemy.

*Q.* 95. Indicate, by a rough sketch, the formation of an advanced guard, consisting of 7 squadrons of cavalry, 2 guns, 6 companies of infantry, in open country. Mark distances between various bodies.

*A.* See Sketch E.

*Q.* 96. What do you understand by the word "de-



file"? Show wherein lies their importance in a military sense.

*A.* Any portion of ground that, owing to local impediments, can only be traversed by troops on a narrow front in proportion to their numbers. The importance of a defile is that a small force may, in one, successfully resist a large one.

*Q.* 97. What are the advantages of defending a defile from a position in rear of it? To what do you attribute the failure of the Austrians in preventing the Prussians from debouching from the defile of Nachod in 1866?

*A.* A position in rear enables the defenders to concentrate the fire, from a wide front, on the enemy, who is obliged to advance on a very narrow one. In allowing the head of the Prussian advanced guard to debouch before attacking it. (See "Clery," page 93.)

*Q.* 98. From what position can guns best co-operate in the defence of a village?

*A.* From one on the flanks, or in rear of it, when good command is thus gained of the approaches.

*Q.* 99. Villages are now usually defended by an exterior line. How is such a line formed? and what advantages has it over one placed immediately round the edge of the village itself, and in which the houses form part of the line of defence?

*A.* The exterior line is formed by the hedges, garden walls, and other obstacles that are generally found on the outskirts of a village. Weak points must be strengthened, and artificial defences made, where breaks occur in it. Such a line provides against a sudden attack of the enemy in the village itself, which would be the case if the defence began at the actual houses.

Besides, if these exterior lines were not held, they would only serve as cover to an enemy attacking the village.

*Q.* 100. What is the difference between the "cordon" and "patrol" systems of outposts? and which do you consider the best for night service; and for what reasons?

*A.* In the "cordon" system, a continuous chain of men is formed by double sentries, thrown out from the picquets, these sentries communicating and being generally in sight of each other. In the "patrol" system, the ground is watched by a series of advanced parties, with double sentries, from which patrols are continually being sent out to search the ground between the advanced parties. The "patrol" system is considered the best for night service, because, if an attack were made at night, the enemy would have to advance along roads or tracks, and it is on these that the advanced parties are stationed.

*Q.* 101. What is the difference between "divisional cavalry" and a "cavalry division"? State briefly the composition and duties of each.

*A.* "Divisional cavalry" are the regiments that are attached to "divisions"—viz., one to each; their duties are to act generally with their division. A "cavalry division" is the body of cavalry attached to an army corps; one of its chief duties is to furnish the cavalry screen in advance of the army; it would, unless specially ordered otherwise, remain under the direct control of the commander-in-chief. It would consist of 5 or 6 regiments.

*Q.* 102. When a large army is operating, why is it desirable it should move on several roads?

*A.* To give greater convenience in marching, and facility of supply.

*Q.* 103. When in the neighbourhood of the enemy, what considerations should govern the distance between the several columns? Give an instance in support of your answer.

*A.* The distance should not be so great as to prevent mutual support, nor should there be any lack of free lateral communication between the various columns. At Hohenlinden, the Austrians moved in 4 columns, in a country so dense that communication was impossible; the result was, that the main body arrived at the outlet before the flank columns, and were beaten by the French in detail. (See "Clery," page 70.)

*Q.* 104. Describe relative advantages and peculiarities of action of cavalry and artillery. What ground is most favourable for either of these arms?

*A.* The power of cavalry lies in the combined action of man and horse, and its power of rapid movement, so that it can be quickly moved from point to point. This rapidity of movement gives cavalry a moral effect in the eyes of other arms; on the other hand, it is soon thrown into disorder, is slow to rally, and has little defensive power. It is very expensive, and takes long training. The ground that is most suitable for the action of cavalry is open, level country, free from obstacles, with slight hollows, to enable it to approach unobserved to enemy. The action of artillery is by its fire only; it can engage at distances at which the fire of infantry is useless; it is the only arm that can destroy obstacles at a distance; its moral effect on troops exposed to its fire is very great—far greater, in fact, than the casualties it causes; in comparison to other arms, it is bulky, complicated, and soon put out of order; it takes up great space, and requires great supply; has difficulty in

changing position, useless in movement, defenceless at close quarters, and is very dependent on ground and weather; is the most costly to train and equip. The best ground for it is that which affords extensive range over open country, and that is moderately undulating, with long slopes and good roads, and sound, to work the guns on.

*Q.* 105. What is the danger of a "flank march"? How was it that Frederick the Great, in spite of this danger, was, as a rule, successful in his attack?

*A.* It is that an army, so doing, exposes its flank to attack when in a position least favourable for resistance; but if the enemy is distant, so that he cannot reach you till the movement is complete, then the danger ceases; it is, therefore, a danger of degree, dependent on nearness of enemy. Frederick owed his success to the want of mobility of his opponents, so that they were powerless to interfere with him during the flanking movements he so often made.

*Q.* 106. Why did Wellington use the "line" to oppose the French "column"? and why did Napoleon in his later wars increase the size of his columns?

*A.* Because Wellington's system was essentially a defensive one, and a line formation gave him the greatest development of fire on an advancing enemy. Napoleon increased the size of his columns to give confidence to his young troops not used to war, and who formed a large proportion of his forces in his later wars.

*Q.* 107. What is the object of reconnoitring? What points should be noted with regard to (1) a bridge, (2) a ford?

*A.* To gain information of enemy, to send it back at once to the main body, and to prevent enemy gaining.

any himself. (1) Its width, length, strength, construction; if fit for cavalry or artillery, if easily destroyed, and how; if near village or house. (2) Its direction, depth, width, nature of bottom, strength of current, approaches, nature of banks.

*Q.* 108. How does a cavalry screen (1) observe the movements of enemy, (2) cover its own forces from observation?

*A.* The front of an army is covered by a line of cavalry detachments furnished by the "cavalry division." These detachments precede the army at varying distances up to 20 miles or so; they send out towards the enemy small parties, diminishing in strength from rear to front, which spread out in a fan shape, and work into the enemy's lines of outposts and round his flanks, sending back instant information of any movement seen, or knowledge gained. This disposition is available for either watching or resistance, as, if the most advanced parties are pushed back by the enemy, they receive a continual accession of strength from the parties in their rear, who should be strong enough to prevent parties of the enemy penetrating the screen.

*Q.* 109. Find the length of column composed of 12 battalions of infantry, in "fours" (in 8 companies of 95 men each), 3 regiments of cavalry, in "fours" (in 4 squadrons of 70 files), and 5 batteries of artillery (in "column of route"). The whole force starts at 7 A.M., to march 12 miles—cavalry leading, infantry in centre, artillery in rear—on one road; at what time will the whole column have arrived, general pace 3 miles an hour, and allowing 5 minutes' halt in every hour?

*A.* Calculate on same data as Questions Nos. 27 and 23.

*Q. 110.* Define a "forced march." What are the dangers of a night march?

*A.* A forced march is when a body of troops marches for a day or days at a pace beyond the usual one, in order to seize on an important position, or to outmarch the enemy for some special reason. Night marches are very tiring—liable to disorder; the various columns are apt to lose their way, and the men are not so fit for action on the day following.

*Q. 111.* What is the interval between squadrons in line?

*A.* 12 yards.

*Q. 112.* Describe briefly the dispositions for the attack on a wood with a moderate amount of cover in front, until the enemy has been driven beyond its further edge.

*A.* The dispositions are similar to attack on any strong position. Defenders must be driven from border of wood, after being shaken by heavy artillery fire; the infantry must be in extended order, most thick at real point of attack. His attention must be engaged on the whole front, so as to prevent him concentrating on certain points. The first line must be closely followed by supports, either extended or in small bodies; the reserves follow in a third line, and sometimes a fourth. Advantages of ground must be seized by the attacking force either to cover the advance or an eventual retreat. As soon as the edge of wood is carried, the supports should at once move forward, and the whole press on through wood; if stopped by a second line of defence, the first line and supports must wait for the reserve. It will be impossible to preserve formations; fighting in woods soon resolves into the advance of a series of squares.

groups. Before following enemy beyond wood, the whole force must be re-formed inside further edge; if there is a good position just beyond the further side, it may be carried with a rush before re-forming, so as to prevent enemy rallying behind it.

*Q.* 113. Define "organization."

*A.* It is the manner in which regiments, batteries, and battalions are composed, and by which the component parts of an army are regulated.

*Q.* 114. What are the duties of a line of outposts?

*A.* They are twofold: observation and resistance.

*Q.* 115. In outpost duty, what do you understand by "line of observation" and "line of resistance"?

*A.* "Line of observation" is that held by the sentries, "line of resistance" that occupied by the reserves.

*Q.* 116. What is a vedette? Describe the various kinds of patrols in use in our service, and the object of each.

*A.* A mounted sentry. Visiting and reconnoitring patrols; the former are sent out from picquets to proceed along the sentry line, and communicate with neighbouring picquets; the latter are pushed out along the different roads towards enemy to discover any movements, and examine any neighbouring obstacles that might permit of enemy concentrating unobserved in front of sentry line.

*Q.* 117. A picquet, consisting of 70 men, finds by day 3 double sentries; by night, 4 double sentries and 2 patrols. How many men will be available for reconnoitring patrols, supposing that the men who are on duty by day do no duty by night?

A. By day ...	{	3 double sentries = 18 men.
		1 patrol ... .. = 2 "
		sentry over arms = 3 "
By night ...	{	4 double sentries = 24 "
		2 patrols ... .. = 4 "
		sentry over arms = 3 "
		—
		54 men.

Therefore  $70 - 54 = 16$  = number of men available for reconnoitring patrols. This does not take into account non-commissioned officers.

*Q. 118.* What are the special points to be kept in view in preparing and carrying out the attack of a position ?

*A.* To have a distinct end in view, the attack must be made at the most vulnerable points ; concentration of artillery fire on these points. When once an attack is commenced, it must be pushed on with vigour ; false attacks to be made at same time ; that cavalry and horse artillery are at hand to follow up success ; a careful disposition of reserves ; secrecy as to point of attack till last moment.

*Q. 119.* A general is ordered to defend a river-line of considerable extent ; as the river, which is unfordable, is in itself a serious obstacle, he decides on a passive defence. State what military history shows has usually been the result in such cases.

*A.* The passive defence of a river delays, but does not prevent, crossing.

*Q. 120.* What is the general principle of defence to be kept in view in defending a river-line ?

*A.* To keep a watch on entire line ; guard in force.



the points most suitable for passage ; concentrate reserve in one or more central positions in rear.

*Q.* 121. Explain why shock tactics have given way to fire tactics.

*A.* Because an enemy in modern warfare can be reached at a far greater distance by fire than was formerly the case, it is now established that the resisting power of the enemy must be shaken by distant fire before attempting to come to close quarters.

*Q.* 122. What is usually the most advantageous position for the defence of a bridge? State what objections there are to the converse of the position you mention.

*A.* The position in rear of it—*i.e.*, on your own side. The danger of holding a bridge on enemy's side is that, if forced, the defenders may have some difficulty in withdrawing across the bridge.

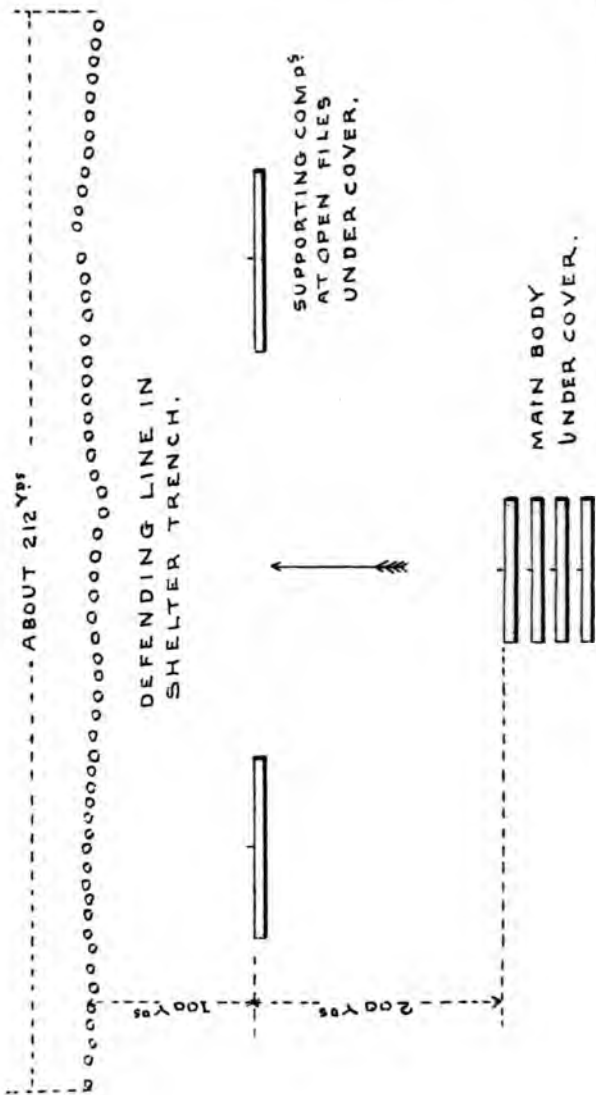
*Q.* 123. What is the difference in the general arrangement of the three arms—(*a*) in the case of a column advancing in close proximity to enemy, and (*b*) of one making a flank march under the same conditions?

*A.* (*a*) In this case the artillery would occupy a forward position, then the infantry and the cavalry in rear; they would thus be in the relative positions in which they would have to commence an action; this does not take into account the cavalry screen covering the advance. (*b*) The general formation would here be—the cavalry on flank furthest from enemy, artillery divided between head and rear of columns, infantry in centre, the exposed flank covered by cavalry screen. (See "Clery," pages 71 and 75.)

*Q.* 124. Give sketch showing frontage and intervals



# SKETCH - F



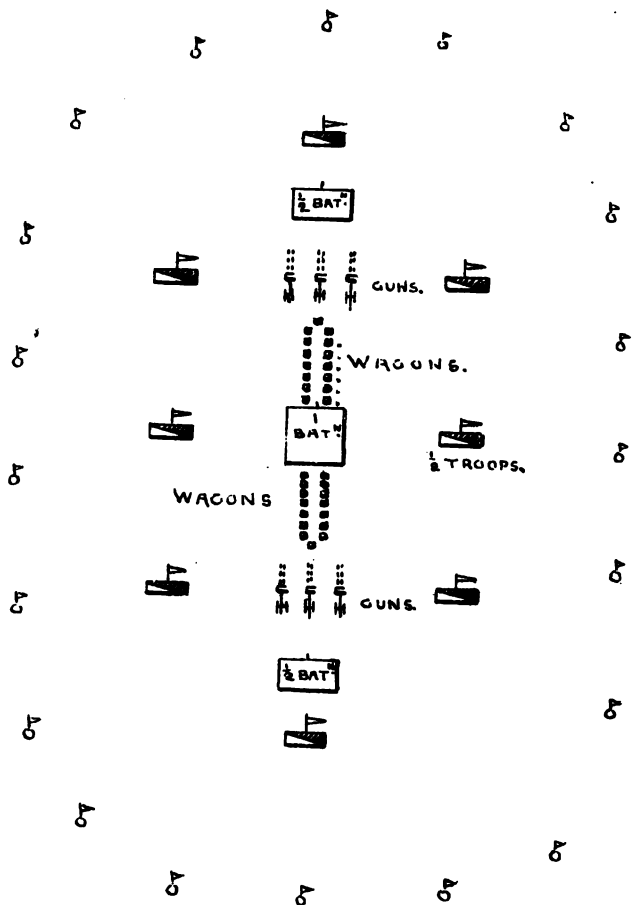


CAMP.





SKETCH-H.



RADIUS OF CAVALRY SCREEN  
3 MILES.

of a battalion in the first line formed for attack (8 companies of 40 files).

*A.* See Sketch D.

*Q.* 125. Give sketch showing same battalion formed for defence on ridge of ground. Mark frontage occupied.

*A.* See Sketch F.

*Q.* 126. At what range would artillery usually come into action?

*A.* With a clear atmosphere, at about 2,500 or 3,000 yards.

*Q.* 127. A British force of 1 cavalry regiment, 2 battalions of infantry, and a field battery, with a column of 30 wagons, has to move 18 miles through an open country, lying between a neutral frontier 8 miles to the left, and an impassable river 4 miles to the right. Object, to effect a junction with a friendly force in an entrenched camp. The enemy holds the country with mounted infantry, force unknown. Dispose of the British force.

*A.* The force could be disposed in two ways: either to move along the neutral frontier or river, so as to have one flank secure, or else to move in a central position. The former disposition is shown in Sketch G, and the latter in Sketch H. It is assumed that the country is open and level enough to admit of wagons moving on any part of it.

*Q.* 128. At how close a range do you think modern field artillery can be successfully opposed to musketry fire?

*A.* Not nearer than 900 yards.

*Q.* 129. What do you understand by concentration of artillery fire? what are the difficulties in the way of effecting it? and why is dispersion of guns generally inadvisable?



*A.* It is the act of bringing the fire from a number of guns to bear on a certain point; but guns massed offer a large target to the enemy's artillery. Yet configuration of ground rarely admits of dispersion of guns while maintaining concentration of fire. Dispersion of guns is also unadvisable, as preventing individual control of the whole. In practice, concentration of fire is gained by massing guns. (See "Clery," page 148.)

*Q.* 130. What is the broad difference between dispositions for defence made by a rear-guard and those made by a larger force? When should a rear-guard leader consider it necessary for him to make arrangements for a renewal of the retreat?

*A.* Preparations for defence of a rear-guard are only made with the object of gaining time, and as its function is to threaten to fight, rather than fight, it is allowable, for the sake of imposing on enemy, to occupy a larger front than if it were meant to hold the position; on the other hand, the preparations for holding a position by a large body are made with the view of retaining it, and, possibly, remaining there. (See "Clery," page 200.) A rear-guard should fall back as soon as its flanks are threatened; it must not even risk getting cut off, as the safety of the army it is covering would be compromised thereby.

*Q.* 131. In what different ways can a defile be defended, and under what circumstances should each be adopted?

*A.* It can be defended at the entrance,—*i.e.*, side nearest enemy—in the interior, or at the outlet. The first would be adopted when time was required for a force still beyond the defile to retire through it; a position in the interior would be held if the flanks could

not be turned, and if it were needful to delay advance of enemy through it; a position at the outlet would be held when the retreating or defending force has time to get through defile in advance of enemy, and take up his position beyond. This is the strongest defence of the three. (See "Clery," page 245.)

*Q.* 132. Calculate the extent of front required by the following force when deployed, with the ordinary intervals:—

5 squadrons of cavalry (35 files each).

6 battalions of infantry (of 8 companies of 45 files each).

2½ batteries of artillery.

*A.* Use same data as for Question 27.

*Q.* 133. A force of infantry in "fours," marching in quick time, is observed to take 25 minutes in crossing over the ridge of a narrow hill; estimate approximately the strength of the force.

*A.* Same data as in Question 23.

*Q.* 134. When a distant reconnoitring patrol gets near to an enemy's position, what are the chief points to be noted?

*A.* Strength and composition of picquets, and how posted; if approaches are open or closed, if outposts are vigilant, if special points are held by guns, if the sentry line is complete; the position of main body.

*Q.* 135. A cavalry picquet has to furnish 4 double vedettes and an examining party. The vedettes cannot be seen from picquet, but are all visible from a hill a short distance in advance of, and within view of, the picquet. Calculate (showing calculations) the strength required for the picquet.

A. 4 double vedettes	=	24 men, 2 corporals.
Connecting single vedette on hill ...	=	3 "
Sentry over arms ...	=	3 "
Examining guard ...	=	4 " 1 corporal.
Patrol ... ..	=	2 " 1 sergeant.
Total ... ..	=	<u>36 men.</u>

If a relief is wanted for examining guard, add 8 men.

Q. 136. Compare the different uses of rear-guards (1) to a force advancing, (2) to a force retreating.

A. The duties of a rear-guard to an advancing force are to pick up stragglers, and guard baggage and rear of column from attack. The rear-guard of a retreating force, when in contact with enemy, has to be continually making head against him, threatening to fight, and then drawing off on enemy deploying to attack, and thus gaining time for the retreat of main body.

Q. 137. State the chief requisites of a good defensive position.

A. Its length of front to be in proportion to the numbers holding it; its depth to admit of free movement in it; its flanks to rest on natural objects; command over surrounding country; extensive range of fire to front and flanks; good positions for the guns; cover for all arms; good lateral communications; good means of retreat.

Q. 138. State the composition of a battalion, battery, squadron, regiment, brigade, division.

A. Battalion, 8 companies; battery, 6 guns; squadron, 2 troops; regiment, 4 squadrons; brigade, 3 battalions; a division, 2 brigades, with the addition of 1 battalion rifles, 1 regiment cavalry, 3 batteries field

artillery, 1 company engineers, 1 artillery and infantry reserve ammunition column.

*Q.* 139. For outpost duty what proportion of an army is generally used ?

*A.* About one-sixth of main body.

*Q.* 140. State briefly the manner in which picquets should be marched to the ground they are to occupy, and sentries posted.

*A.* A picquet should be marched to its position in two parts, one extended as skirmishers, and the other acting as support. They must examine the ground they advance over, to make sure none of the enemy are concealed. When the skirmishing line reaches the position that is to be occupied by the sentry line, it is halted ; the commander of picquet then posts his sentries. When this is done, the remainder of skirmishing line is retired on the other half-picquet, and it proceeds to take up the position assigned to it. By this means the sentries know that the ground between them and picquet is clear of enemy. The sentries are posted double—*i.e.*, two men to each post ; one of these keeps a look-out to the front, while the other patrols to his right till he comes to the next sentry post, and then returns to point he started from. The sentries of each post will relieve each other in this duty.

*Q.* 141. What is the interval between artillery and the other arms ?

*A.* 28½ yards.

*Q.* 142. What are the principal rules to be observed when large bodies of troops are on the march ?

*A.* That the general pace does not fatigue. If possible, move on several roads. That the distance between columns is such that mutual support can be given ; to

this end, there must be free lateral communication. That the different arms are placed in the various columns in the order they would be required to come into action; regular halts to be made; strict discipline maintained. When enemy is very distant, move each arm on separate roads, as being less fatiguing to each.

*Q.* 143. When can columns move in safety on separate roads?

*A.* When there is no chance of meeting with enemy.

*Q.* 144. Give generally the place of each arm on the line of march.

*A.* Artillery, infantry, cavalry. This is not including cavalry screen. (See "Clery," page 71.)

*Q.* 145. Give diagram of an infantry brigade in the first line formed for attack.

*A.* See Sketch I.

*Q.* 146. If you were ordered on reconnaissance duty, in command of a troop of cavalry, what precautions would you take before starting?

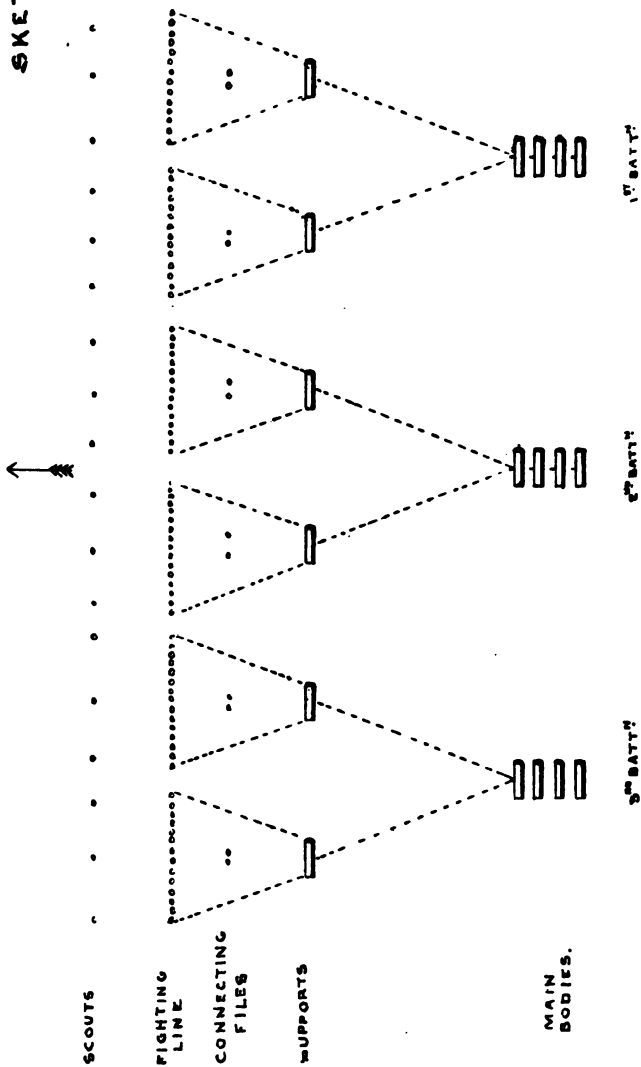
*A.* Carefully inspect men and horses; see that each man has his ammunition; that the shoes of horses are all sound, and that they have all been watered; that the men have had a good meal; in some cases rations must be carried for men and horses; have a sketch of the ground to be gone over, or map of country; get a good guide, if possible; and endeavour to have some one in the party who can speak language of country.

*Q.* 147. Give sketch showing disposition of the troop in previous question when passing along road in close country.

*A.* See Sketch J.

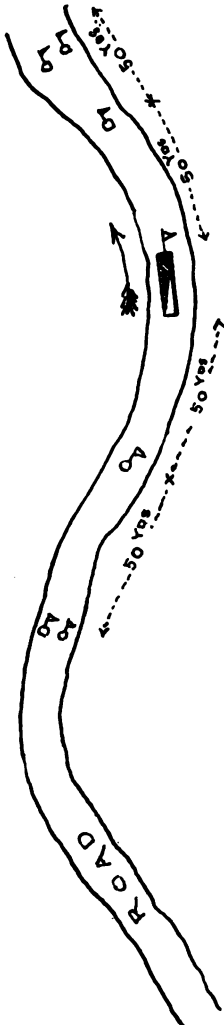
*Q.* 148. When would infantry be used for reconnoi-

# SKETCH. I.





## SKETCH. J.



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tring? and when would it be advantageous to combine infantry with cavalry for this duty?

*A.* When the country was close and impracticable for cavalry, infantry would be used with cavalry when it was thought needful to hold certain lines of retreat, such as a bridge, and so secure the retirement of the cavalry, and enable them to rally if pursued by a superior force.

*Q.* 149. The head of a force—composed of 4 battalions (8 companies, 800 strong), 2 squadrons (48 files), 4 guns—has arrived at its camping ground; how long will it be before the tail of the column arrives—infantry in “fours,” cavalry in “half-sections,” artillery in “column of route”? Allow one-sixth for tailing, and the ordinary intervals between arms.

*A.* Find the length of column, as in Question 27, and time it takes to traverse certain distance, as in Question 23.

*Q.* 150. Describe fully the duties and responsibilities of an officer commanding a picquet and the officer commanding the outposts.

*A.* The duties of an officer commanding a picquet are to take down in writing the orders of the officer commanding the outposts. He is responsible for the safety of his post; he should not go beyond reach of his picquet; should acquaint himself, as far as possible, with surrounding country; examine all obstacles in front of his position; measure distances to certain points by which enemy would approach; determine what he would do if attacked; be continually on the alert to gain information of enemy. If attacked, he will reinforce his sentry line, and send immediate information to the picquets on his right and left; and, to support, he will

hold his ground till his flanks are being turned, and then fall back slowly in skirmishing order, disputing every inch of ground. He must continually visit his sentries, and ascertain that they are fully acquainted with their duties; if time permits, make sketch of his position and its surroundings. The officer commanding the outposts must examine carefully the ground that is to be occupied by the various parties before they move up; determine where his sentry line will run; show the officers commanding picquets the exact ground they are to occupy; select the positions of the supports and reserves. He must be careful that his flanks are secure. On receiving any information of enemy, he will at once send it back to commander of main body.

*Q. 151.* Give sketch showing formation of a squadron of cavalry, on reconnaissance duty, when crossing a tract of open downs.

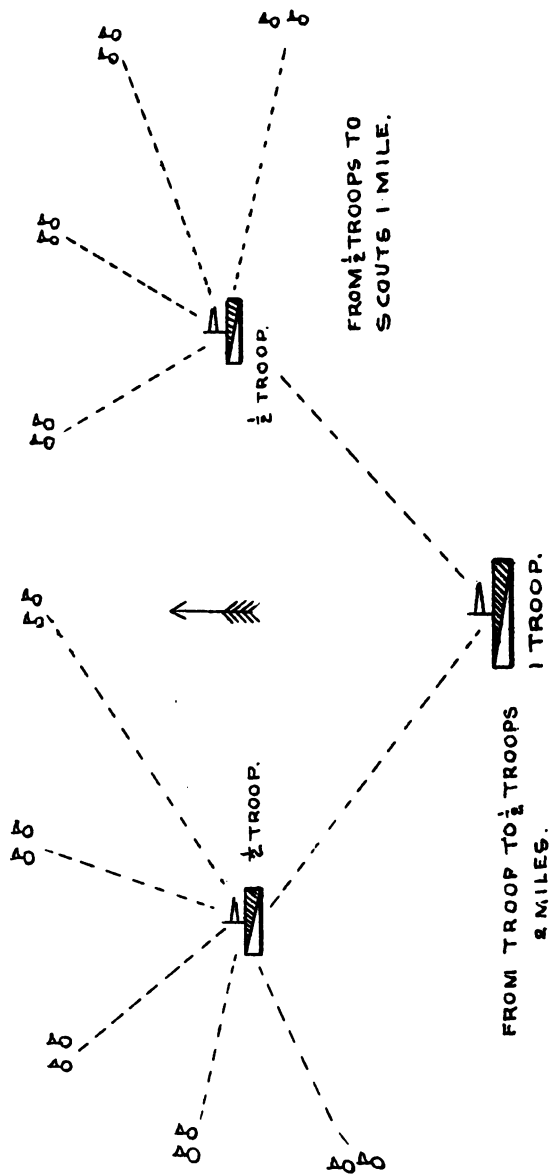
*A.* See Sketch K.

*Q. 152.* A force of  $2\frac{1}{2}$  batteries of artillery,  $3\frac{1}{2}$  squadrons of cavalry (48 files each), and 8 battalions of infantry (900 men each), are formed up on a camping ground; the artillery on the left, in column of half-batteries; the infantry in centre, in line of quarter-columns; the cavalry on the right, in column of troops. (a) Find the length of this line. The force moves off from the right; the cavalry in "sections," the infantry in "fours," the artillery in "column of route." (b) Find the depth of the column. The usual intervals are preserved throughout.

*A.* Calculate on same data as Question 27.

*Q. 153.* In what formation does cavalry attack, and over what ground, and under what conditions, can a charge be successfully conducted?

# SKETCH. K.



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*A.* In line ; over open ground, free from obstacles ; it must be sudden, rapid, and opportune ; a portion must always be held in reserve, which must not get mixed up with first line on charging, but held in readiness as a formed body for first line to rally behind, or to defeat an attack on flanks of first line.

*Q.* 154. State the ranges at which artillery and infantry fire are effective.

*A.* Field artillery is effective up to 3,000 yards, with shell, and increases in effect, back to 1,000 yards, at which point it begins to suffer greatly from infantry fire ; if firing case, 350 yards is about the maximum range with effect. Infantry fire is effective up to 1,000, and increases in effect as this distance lessens ; the fire of attacking infantry does not reach its full effect till 400 yards from enemy's position.

*Q.* 155. What is the maximum front assigned to an infantry picquet, a cavalry picquet ?

*A.* Cavalry, 2,000 yards ; infantry, 1,000 yards.

*Q.* 156. When a picquet is posted in a defile, what precaution should be taken to insure its having time to fall in if attacked ?

*A.* Obstacles must be erected in front to prevent sudden rush of enemy.

*Q.* 157. What are the rules as regards unsaddling and unbridling in a cavalry picquet ?

*A.* The horses must be kept always saddled ; bridles only taken off for feeding or watering ; and never more than half to be fed or watered at a time.

*Q.* 158. What precautions are taken in a cavalry picquet to prevent horses having sore backs ?

*A.* Saddles should be shifted every 12 hours.

*Q.* 159. What is the furthest distance in front of

sentry line a small reconnoitring patrol of infantry may, as a rule, without special orders, advance at night ?

*A.* About half a mile.

*Q.* 160. You are in command of a picquet, and are attacked by enemy, and have been pushed back a quarter of a mile ; at this point half a troop comes up to support you, on which the enemy retire. What would you do, and what would you direct the cavalry to do ?

*A.* I should advance my men to their former position, and order cavalry to follow enemy, and keep them in sight till they halted, and then send back word at once.

*Q.* 161. What proportion does the reserve generally bear to the whole of the outposts ?

*A.* About a third.

*Q.* 162. When artillery forms part of reserve, does it usually unlimber, or not ? State any exception to the rule.

*A.* It is generally kept limbered up, out of sight, and in a position from which they could quickly retire. Guns are unlimbered and placed in position when some important point occurs in the line of observation, such as a bridge, ford, or defile. Care must be taken to hide them as much as possible with boughs of trees, &c., so that at a distance they will not be distinguished by enemy's reconnoitring parties.

*Q.* 163. Guns in action, on the defence of a position, in an artillery combat, are being overpowered ; state what course the artillery of the defence should adopt.

*A.* They should be withdrawn under cover till the enemy's infantry advances, when they will come forward *again, and be directed against the infantry.*

*Q.* 164. When large forces are in position, who indicates the general front of the line of outposts, and who regulates the distribution of the different parts ? (*a*) Why are sentries in advance of picquets instructed not to fire unless the actual alarm is urgent ? (*b*) Why is it advisable to keep the same soldiers during their terms of sentry duty on the same posts ?

*A.* The commander-in-chief ; the various commanders of outposts. (*a*) So as not to disturb the rest of those in rear, if not really needful. (*b*) Because they have become well acquainted with the ground, and, consequently, can better observe and defend it, if attacked, than a man new to it.

*Q.* 165. The number of troops employed on outpost duty varies considerably. Select any instances in your text-book, and state the numbers employed per mile.

*A.* It is laid down in the "Field Exercise," that outposts are not to exceed one-sixth of main body. In the Franco-Prussian War, they varied from 300 to 1,000 men per mile of front. (See "Clery," page 22.)

*Q.* 166. The Russian batteries at the Alma were on a height, with a steep slope, considerably above our army. The ground in front of the Austrian batteries, on the heights of Sowetitz, sloped gradually down towards the woods of Sadowa. Which was the more favourable artillery position ? Give your reasons.

*A.* The position of the Austrian batteries was the most favourable, as when guns are fired down a very steep slope, as at Alma, it produces plunging fire, and projectiles bury themselves where they strike. On the other hand, a gentle slope more nearly coincides with the line of flight, and extends its influence ; it is also very favourable to ricochet.



*Q. 167.* In a battalion of 8 companies "formed for attack," explain clearly what is meant by (a) the attacking line, (b) the supporting line, (c) open files. (d) At what distance will the battalion, exposed to artillery fire in very open ground, form for attack? (e) How should the attacking line receive cavalry?

*A.* (a) The two extended companies, Nos. 1 and 3, at 4 paces between files; (b) the two companies, Nos. 2 and 4; (c) the formation adopted by the supporting companies—viz., opened out from the centre to 1 pace interval between files. (d) At 2,500 to 3,000 yards. (e) By forming files or groups—i.e., 4 men—or forming rallying squares.

*Q. 168.* Distinguish between "local reserves" and "special reserves" of troops formed in a defensive position. State their respective duties, and from whom they receive their orders.

*A.* A local reserve is formed of part of a battalion that is in the first line, and is engaged, or about to be so; it takes its orders from the commander of its own battalion. A special reserve is a body of troops held apart from the general defending or attacking line, ready to act on any special point under the orders of the officer commanding the whole.

*Q. 169.* What are the chief considerations that should govern the conduct of a commander of an advanced guard on meeting small and large bodies of the enemy?

*A.* Small bodies may be swept back, but if the enemy is come upon in force, the most favourable ground must be selected for stopping his advance or holding one's own position; the amount of this resistance must be determined by the consideration as to whether

the commander of main body wishes to fight on this ground or not.

*Q.* 170. Assuming that the use of fire-arms by cavalry, acting as such, is undesirable, explain why it is so important that cavalry should be so armed as to be able to fight on foot.

*A.* Because if a body of cavalry is attacked, or suffers from infantry fire, it may dismount a portion of its men to act against them on foot in a manner impossible if mounted. (See "Clery," page 134.)

*Q.* 171. Besides the reduction of casualties amongst the gunners, why is it of such importance to provide cover for men and horses of artillery in action?

*A.* Because under cover more effective fire can be maintained; and if the horses are not preserved, the battery will be powerless to advance or retire, and in the latter case it would be lost.

*Q.* 172. What, in the first instance, should be the mark for the artillery in the preparatory action against an enemy's position? During this period, how should the infantry be disposed?

*A.* The enemy's artillery. They should be kept under cover.

*Q.* 173. State briefly the advantages on the side of the defence.

*A.* That the ground can be selected on which to fight; that, knowing the ground, the best means can be organized for its defence; that defending force can add to its strength by entrenchments; that the defenders can fight under cover.

*Q.* 174. A scouting party comes on a recently vacated bivouac of the enemy. Name the indications that might give a clue (1) to the direction in which

the late occupants have gone, (2) to the length of time they have left, (3) to the composition and strength of the force.

*A.* (1) The direction would be indicated by the trail they left, by the hoof-marks of the horses, or by the wheel-marks; (2) may be judged by noticing if there are any embers still alight in the fires, or if the ashes are still warm to the touch; (3) can be ascertained by observing where the cavalry horses were picketed, the artillery parked, and the number of fires that had been lighted.

*Q.* 175. Calculate the space occupied on the line of march by a battalion of infantry, 900 strong, moving in "fours;" by a regiment of cavalry, 350 strong, moving in "sections;" by a battery of artillery, moving in "column of route." This force has to pass over a bridge. How long does each arm take to cross it in the above formation (width of bridge to be neglected)?

*A.* Work out same as Questions 23 and 27.

*Q.* 176. Explain how it is that, when a force is retreating, from inability to cope with enemy, a fraction of that force, employed as a rear-guard, can check the enemy's advance. (*a*) Of which arms should a rear-guard be composed in an ordinary country, and why should there be always, if possible, in ordinary country, a large proportion of cavalry? (*b*) Why is it allowable for a rear-guard to occupy a greater extent of front than the same force in line of battle? (*c*) What principle should the commander of a rear-guard adopt as regards actual fighting?

*A.* Because a small force can take up such a position that an enemy, though stronger, cannot attack it without due preparations and reconnoitring. But all this

takes time, which it is the object of the rear-guard to gain. So soon, however, as its position threatens to be turned, it at once retires, to repeat the same movements at the next favourable spot on the line of retreat.

(a) A rear-guard should be composed of the three arms. It should be strong in cavalry, because that will be the arm that the enemy is sure to use freely in pursuit, and therefore it requires the same arm to cope with it. (b) A rear-guard can afford to show a larger front, because its object is merely to cause the enemy to *imagine* he is in the presence of a larger force than he is. A rear-guard, therefore, can with safety—as not intending to *hold* the position it takes up—occupy a much larger front than it could do if the position were really to be defended. (c) Each position should be held until the enemy's dispositions for carrying or turning are so developed as to insure success. Counter-attacks *may* be made, but, as a rule, they should be avoided, delaying, rather than fighting, being the work of a rear-guard. He should pay great attention to his flanks, using cavalry scouts freely in this direction. (See “Clery,” page 202.)

Q. 177. Under what circumstances may it happen that the defence of a river-line is not made to rest on denying its passage to the enemy?

A. This might occur when the points easy to pass were too numerous to guard, or when there was a very strong position at some distance beyond the river.

Q. 178. When the locality for crossing a river has been determined generally, what considerations determine the actual point of crossing?

A. Tactical considerations only.

Q. 179. What made Napoleon judge, before he reached the bank of the River Adda, that the bridge of

Lodi had not been destroyed? Describe briefly the size of the bridge, its position as regards town, and the size and character of the river.

*A.* Because he found the town of Lodi occupied by the enemy. The bridge was 200 yards long, and very narrow. It was close to the town. River was very winding, broken up into numerous branches, with islands. (See "Clery," page 266.)

*Q.* 180. How do you account for Wellington having got troops across the Douro at Oporto without loss? What force had Soult to defend the passage, and where did he expect it to be attempted?

*A.* He crossed at a point unwatched by enemy, and which point was hidden from the city by a bend in the river. He judged the attempt would be made at the mouth. (See "Clery," page 234.)

*Q.* 181. Why is a working party, with tools, told off to accompany the force attacking a village?

*A.* So as to clear away obstacles that may occur, make passages through walls and houses, and to fortify a post if captured. For want of this precaution, a force, having gained part of a village, may be unable to proceed, and, perhaps, finally have to retire with loss.

*Q.* 182. Of how many companies does an infantry battalion in our service consist? What officers are required for each company?

*A.* 8 companies. A captain and 2 subalterns.

*Q.* 183. What other combatant officers are required for the same battalion?

*A.* 1 colonel, 2 majors, 1 adjutant.

*Q.* 184. What is the composition of a cavalry regiment? What is the next step in cavalry organization *with regard* to an army corps?

*A.* 4 squadrons of 2 troops each. A brigade—*i.e.*, 3 regiments—with a battery of horse artillery attached.

*Q.* 185. How many non-commissioned officers and men would be required for the day service of an infantry picquet to furnish 4 double sentries, 2 connecting sentries, and all other duties?

<i>A.</i> 4 double sentries ...	= 24 men,	1 sergt.,	1 corpl.
2 connecting sentries =	6 "	}	
Sentry over arms of			1 "
picquet ... .. =	3 "		
Visiting patrol ... .. =	2 "		1 "
2 reconnoitring ditto =	8 "	1 sergt.,	1 "
		—	—
		<u>43 men,</u>	<u>2 sergts.,</u> <u>4 corpls.</u>

*Q.* 186. When an army is moving, from which parts of the army should the outposts usually be selected?

*A.* They are usually furnished by the advanced guard; but if their duties have been very trying, the advanced guard would be furnished by main body.

*Q.* 187. Under what circumstances may outposts be composed of picquets and supports only? and why in such cases is a reserve not employed?

*A.* When an army is bivouacked on a position in which it is determined to await the enemy's attack, a reserve is not needed, as the main body of the army acts as such. By not using reserves in this case, a large body of men are saved extra duty, and are fitter for work when required.

*Q.* 188. Do sentries in advance of picquets wear valises, or not?

*A.* Yes, if they are mounted with them; as would be the case with the first sentries posted by a picquet

on its taking up its ground ; but the subsequent ones would not be mounted with them unless an attack was considered imminent. It is a matter that rests with the officer commanding picquet.

*Q.* 189. What is the surest method by which the commander of an army in the field can obtain accurate information of the enemy's movements ?

*A.* By keeping constantly in touch with him by his light troops. If he is halted, reconnoitring parties should be continually sent out up to his position ; if he is advancing, they must move forward to meet him ; if retiring, never lose sight of him. Good as was the Prussian scouting in the Franco-Prussian War, they quite lost sight of the French army after beating them at the battle of Worth.

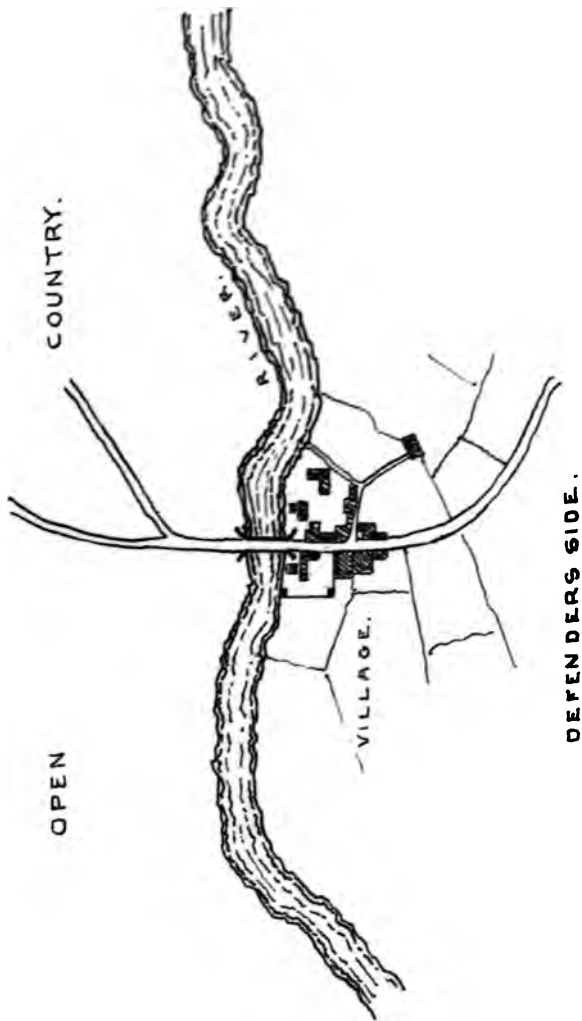
*Q.* 190. How would you organize the defence of a bridge in the following cases: (1) When a river skirts a village, the latter being on defenders' bank, and the ground on enemy's side being open (as in Sketch L.)? (2) When the village is on enemy's bank, and the ground on defenders' bank comparatively open (as in Sketch M.)?

*A.* (1) I should organize the defence in the village itself. (2) In this case, the defence must be made at some distance from the bridge on defenders' side. (See "Clery," page 252.)

*Q.* 191. Whilst moving in command of a small reconnoitring party, you discover a portion of the enemy on the march, but are not discovered yourself; what action would you take under the circumstances?

*A.* I should move with one or two men to such a *position* that I could gain a clear view of enemy, leaving the remainder of party hidden in the most favour-

SKETCH-L.

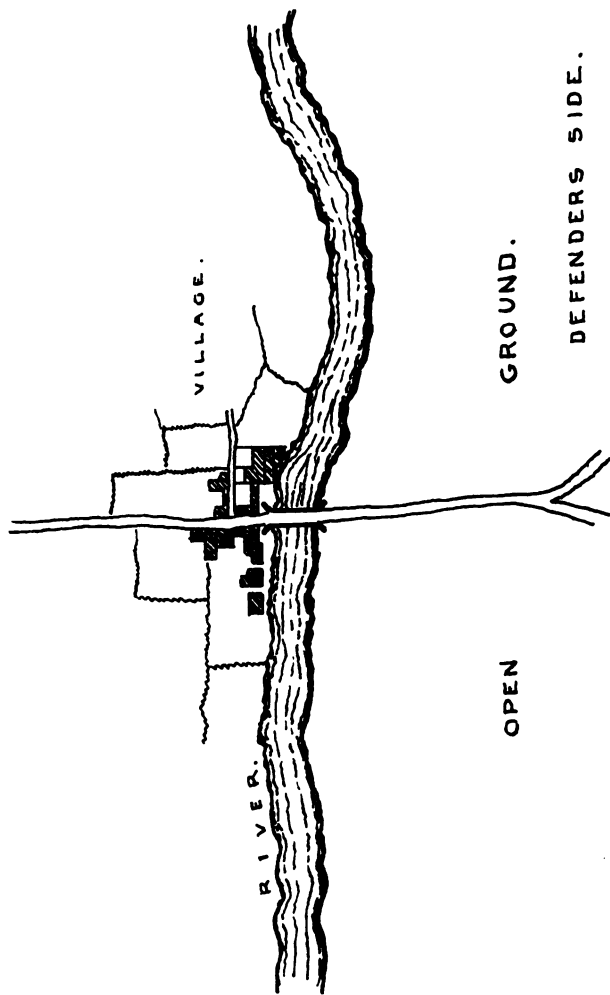


PK





SKETCH. M.





able position for defence and free retreat I could find; I should then note how long each arm was passing a certain spot, calculate his numbers, &c., send back instant information, and continue to keep watch on enemy's movements.

*Q.* 192. What are the ordinary rates of marching per hour of the different arms respectively, not including halts, the whole at a walk? and what are the different circumstances that tend to reduce these rates?

*A.* Infantry, 3 miles; cavalry, 5 miles; and artillery, 4 miles an hour. Causes that affect these rates are length of columns, state of roads, time of year, state of weather.

*Q.* 193. The advanced guard of an army moving in an enemy's country has to pass through a mountain defile or pass, with accessible heights on either side. How should this be done?

*A.* The heights on both sides must be cleared and gone over by strong flanking parties. These must move well in advance of main body, the head of which must not commit itself to the defile till "all clear" is signalled from the advanced parties on either flank. The main body must move on with great care, with feelers thrown well to the front.

*Q.* 194. What is the best direction for the line of retreat as regards the general front of a position?

*A.* One perpendicular to the front, about the centre.

*Q.* 195. In attempting to effect the passage of a river which is defended, what tactical considerations would influence you in selecting the actual point of crossing, when the general locality for crossing had been determined?

*A.* A point should be selected, if possible, that will

give a convergent fire of artillery on that part of the enemy's bank at the point of crossing. The bank on the attacking side should command the other. Both banks should admit of getting on and off boats or rafts, and ground on either side should be firm enough to allow guns and cavalry to move on it.

*Q.* 196. What do you understand by the terms used in the "Field Exercise"—viz., "extended order," "rank entire," "open files"?

*A.* "Extended order" is that formation adopted by Nos. 1 and 3 companies of a battalion when formed for attack—viz., 4 paces between files, and 6 paces between companies. "Rank entire" when the rear-rank men of companies in "extended order" move up on the left of their front-rank men. "Open files" is the formation of the 2 supporting companies of a battalion, formed for attack, when they are opened out to 1 pace or more between files.

*Q.* 197. Describe the duties of the "fighting line," "supports," and "main body" of a battalion moving to attack.

*A.* "Fighting line" to keep up a steady and continuous fire on the enemy from the moment such fire becomes effective, and to maintain this fire as the attack is developed; "supports" to supply losses to fighting line, so that its fire may never slacken, and finally reinforce it as enemy's position is approached, to protect the flanks, to give confidence to "fighting line;" "main body" to assist the other companies, if needed, in finally forcing the enemy's position.

*Q.* 198. What is the usual strength of cavalry and infantry reconnoitring parties respectively? What are the reasons which determine these numbers?

*A.* Cavalry, 5 to 50; infantry, 50 to 100. Their strength will be such as will allow them to make head against like parties of enemy. Large patrols use up cavalry very soon. When a certain tract of ground is to be examined, a larger number of men are wanted than if only a certain position is to be reported on.

*Q.* 199. What was the approximate strength of the Russian cavalry and the British "heavy brigade" in action at Balaclava? and, excluding all considerations of bravery, to what do you attribute the result?

*A.* Russians, 2,000 to 3,000; British, 400 to 500. The fact that the Russians received the charge at the halt.

*Q.* 200. What points would you note if sent to reconnoitre some heights?

*A.* If there are good defensive positions; width of plateau; if clear, wooded, or undulating; what kind of crest; what number of troops it would require to hold it; nature of slopes, and general height.

*Q.* 201. What are some of the advantages on the side of the attack? what are the disadvantages?

*A.* That the point of attack can be chosen; that this point can be kept secret; that, as no position is perfect, weak points are sure to offer. The disadvantages are, that the attackers have to advance over the open against men stationed under cover; that the enemy can have measured the ground, and got the exact range to certain points, and can so maintain a more effective fire.

*Q.* 202. What kind of ground is best for infantry on the defensive?

*A.* That which gives good cover and command, and is open to front and flanks.

*Q.* 203. Why do artificial obstacles, such as "abattis," lose their value within a wood?

*A.* Because the true line of defence is at the edge, and they do not *detain an enemy under fire*; and, unless very extensive, they can be turned.

*Q.* 204. In reconnoitring, you come upon a vacated camp of enemy. How would you be able to judge of his troops from the signs of the camping-ground?

*A.* Tents not pitched would indicate that either they were worn out or much pressed for time; if the tents had been pitched, but were not laid out with regularity, it would indicate lax discipline, and that they were more or less demoralized. Haste and disorder would also be indicated by badly-formed cooking-places, or by arms and *débris* scattered about.

*Q.* 205. Make a sketch showing 4 battalions, of 8 companies, disposed as a line of outposts covering a large force; show a river, and arrange the sentry line as running generally along the river. A bridge is to be shown crossing the river. Half a battery is detailed to act with the outposts, and dispose of them as you think best.

*A.* See Sketch N.

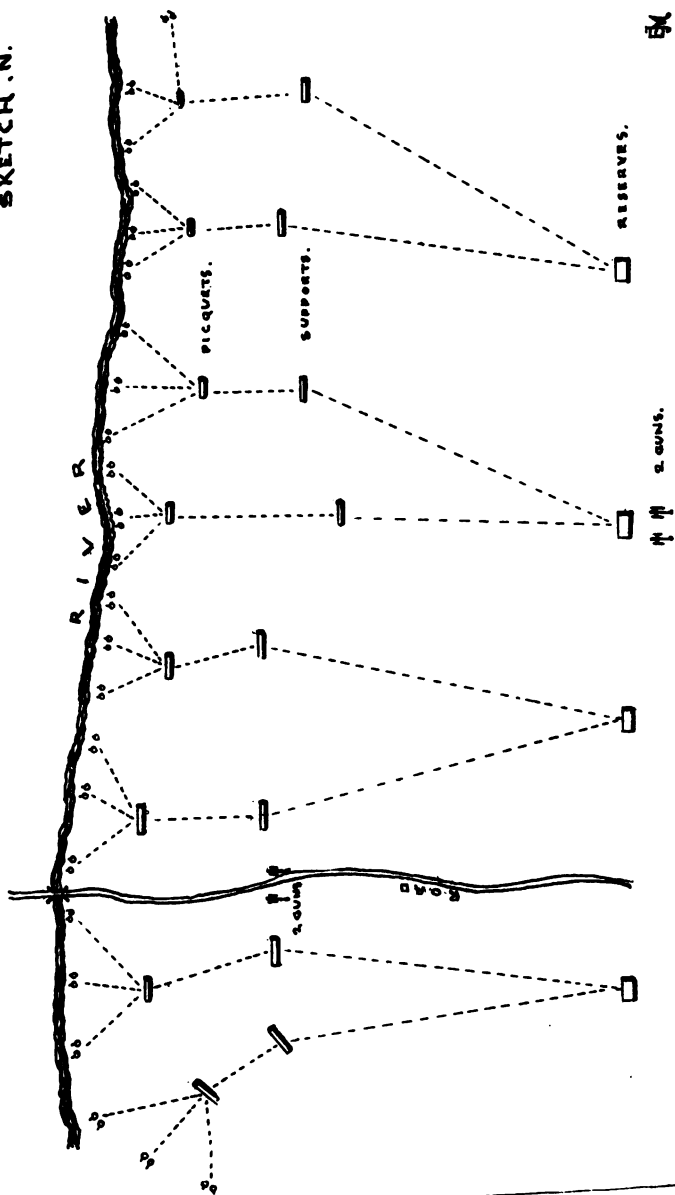
*Q.* 206. How would communications be carried out between the various bodies forming the outpost system and the army it is covering?

*A.* Between sentries, picquets, and supports, by patrols; for longer distances, by mounted orderlies and flag signalling.

*Q.* 207. There are two kinds of picquet patrols; explain the duties of each.

*A.* Visiting and reconnoitring patrols. The former *are sent out from the picquet between reliefs, to go along*

# SKETCH. N.







the front of sentry line, to see that they are alert, have anything to report, or require assistance. They consist generally of a non-commissioned officer and 2 men. On leaving picquet, they should communicate with the sentries of the picquet on right; and after having passed along front of sentry line, communicate with sentries of picquet on left, and then return to picquet. Reconnoitring patrols of about 4 men and a non-commissioned officer are sent out from picquet along the roads that lead to enemy for about a mile, to reconnoitre the position and movements of enemy; they should avoid coming in contact with enemy's patrols, their duty being to watch, not to fight.

*Q.* 208. If the main body is a very large force, how is its advanced guard usually subdivided?

*A.* Into a van-guard and a main body.

*Q.* 209. In what particular points does the nature of ground chiefly affect the action of infantry? Are these rendered more or less important by the increased range and rapidity of musketry fire?

*A.* By the cover it affords, and the extent of front it admits of. They are rendered more important because cover is necessary to prevent destruction, and breadth of front is needed to bring full force of infantry into effect.

*Q.* 210. Suppose the infantry of an attacking force to have succeeded in carrying the position at a decisive point; how would you employ the artillery and cavalry of the attack with a view to secure the advantage gained?

*A.* The guns should be at once moved up to support the position taken by the infantry, and the cavalry should follow up, to threaten the enemy's flanks and confirm the success.

*Q.* 211. How would you arrange a convoy of 5 wagons in close country, with an escort consisting of 2 battalions and 2 squadrons? Explain by a sketch.

*A.* See Sketch O.

*Q.* 212. In the defence of villages, it is usual to select some building as a citadel or redoubt. What is the object aimed at, and what considerations would guide you in selecting a suitable building?

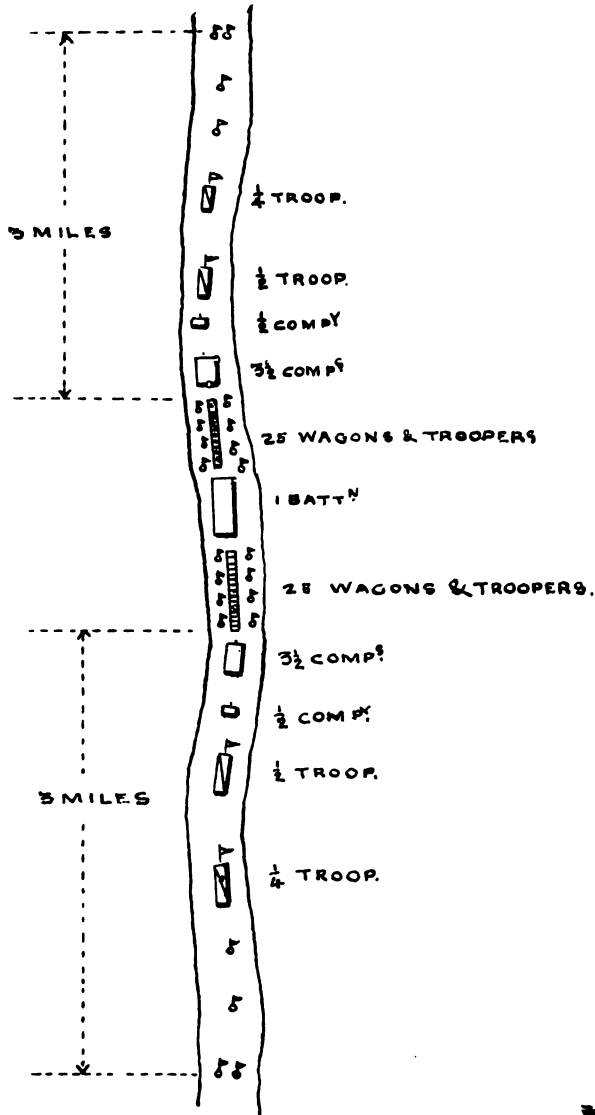
*A.* Because, if the enemy gained an entrance into the village, a body of men in such a building would be able to hold out till help arrived; and it would be a great assistance, in the re-capture of the village, having such a building occupied. It should be in as open a position as possible, and not commanded by other buildings.

*Q.* 213. To what special points must the attention of reconnoitring patrols be directed with regard to their personal conduct?

*A.* To maintain silence and vigilance, and to be careful to prevent their arms and accoutrements from rattling, or allowing anything about them to glitter.

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SKETCH.O.







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"THE TIMES," AUGUST 13th, 1877.

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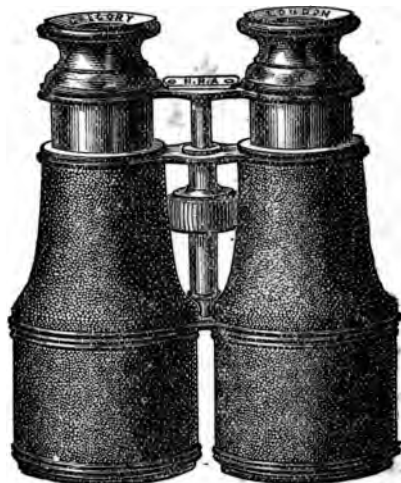


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